Digital Video Capture Card
DVC-Series

USER'S MANUAL

DVC – 4025

DVC – 1650

DVC – 16100

DVC – 16200

DVC – 400 RTC

DVC – X AI

DVC – 4 IO

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Features

- Max. 32-Ch camera inputs (Only with 2 x DVC –16100)
- Display speed at max. 400fps / Recording speed at max. 200fps
- Provides Mpeg4 and MJpeg compression algorithm
- High resolution at 640x480
- Max. 8-Ch audio recording (Optional)
- Various alert modes upon various events
- Pan/Tilt/Zoom control on both server and client side
- 6-level of security access
- Digital watermark support
- Dynamic IP support
- Multiple and simultaneous remote connections
- Allows access from Windows CE installed PDA through mobile internet
- High performance, durable rack mount case

System Specification Recommendation

The below is the recommended computer specification to work with DVR board.

Model	DVC4025 – DVC1650	DVC16100 – DVC16200
CPU	Pentium Celeron 1.7GHz or above	Pentium IV 2.0Ghz or above
Motherboard	Intel 865 Chipset Motherboard or above (Aopen AX4SPE-N VALUE is recommended for over 200fps DVR)	
OS	Win 2000/XP	
Memory	256 Mbyte or above	
HDD	80G or above	
VGA	ATI Expert 2000 Pro / Geforce 2 MX200 with video ram 32M or above	
Power	110/220V 300W	

Chapter 1
DVC Hardware

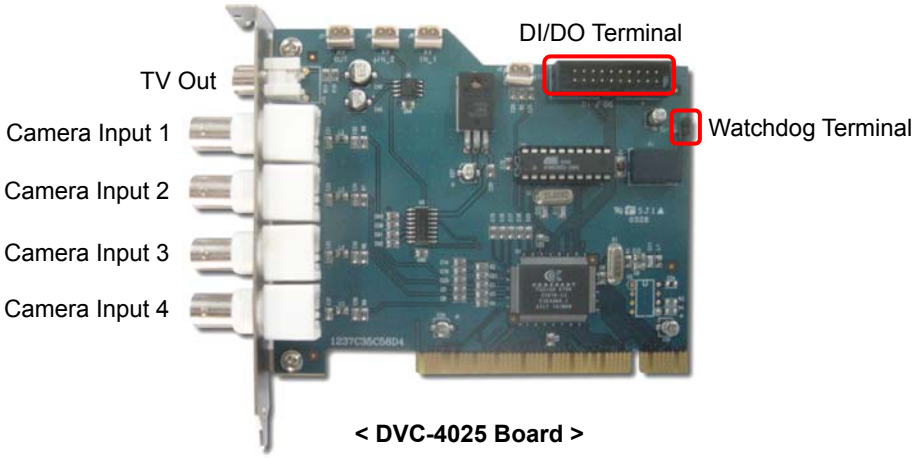
1.1 DVC Line-up

Prodcut Line-up

Model	Video Input	Display / Recording	Audio Input
DVC-4025	4Ch	25fps / 25fps	1
DVC-1650	16Ch	50fps / 50fps	2
DVC-16100	16Ch	100fps / 100fps	4 (Option)
DVC-16200	16Ch	200fps / 200fps	8 (Option)
DVC-400RTC	16Ch	400fps	

1.2 DVC-4025

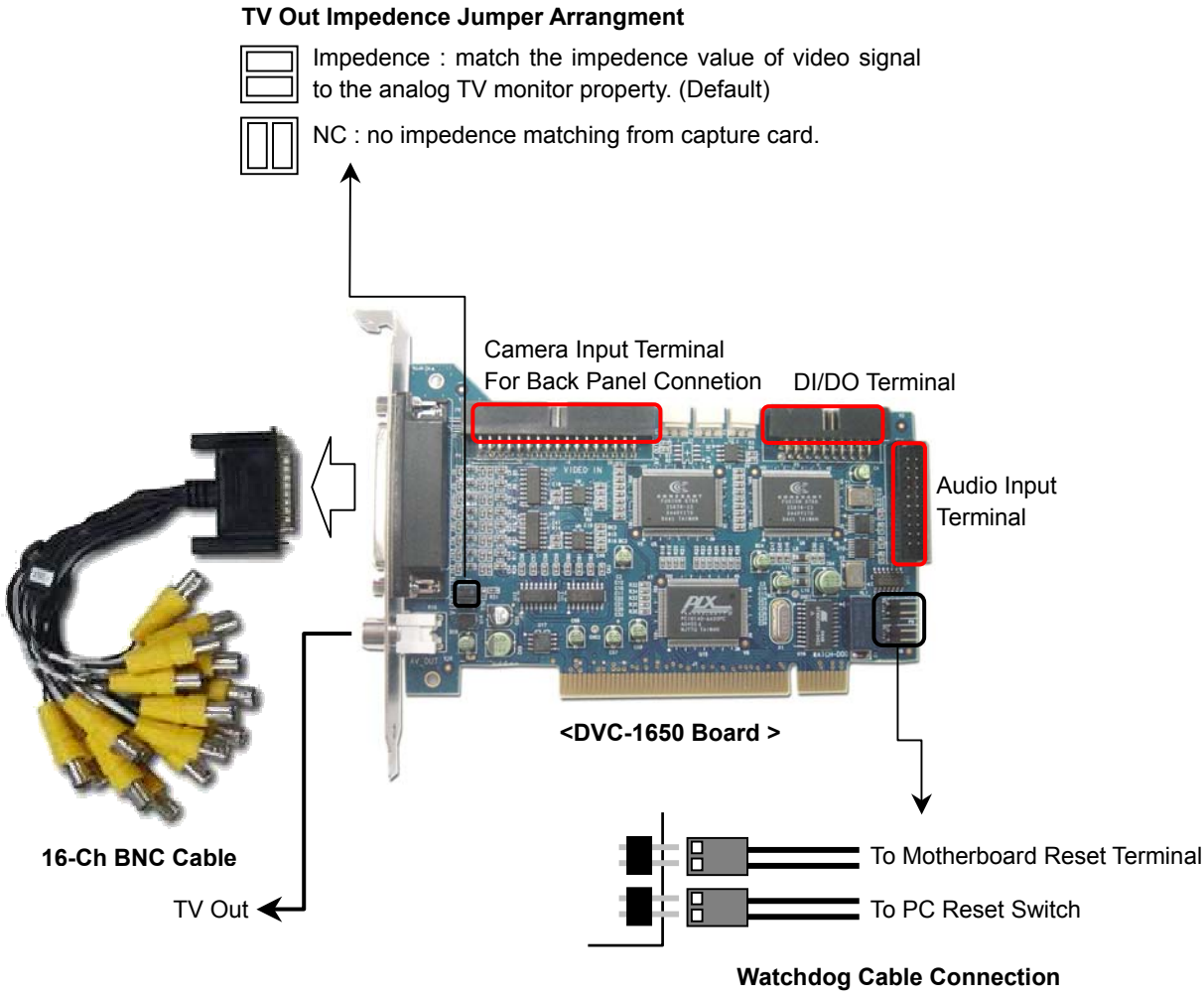
Formation : one DVC-4025 board



< DVC-4025 Board >

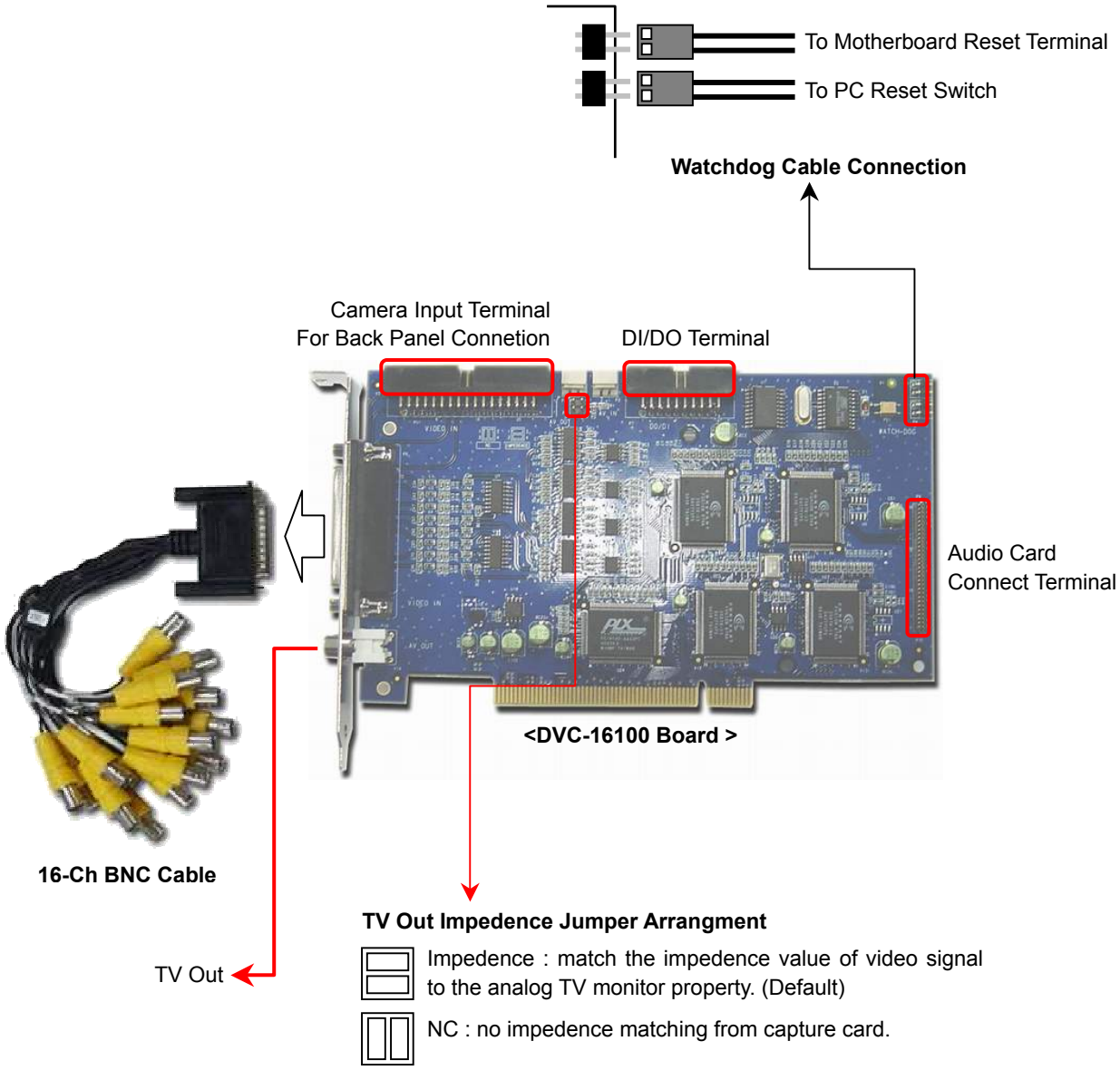
1.3 DVC-1650

Formation : one DVC-1650 board + one 16-Ch BNC Cable



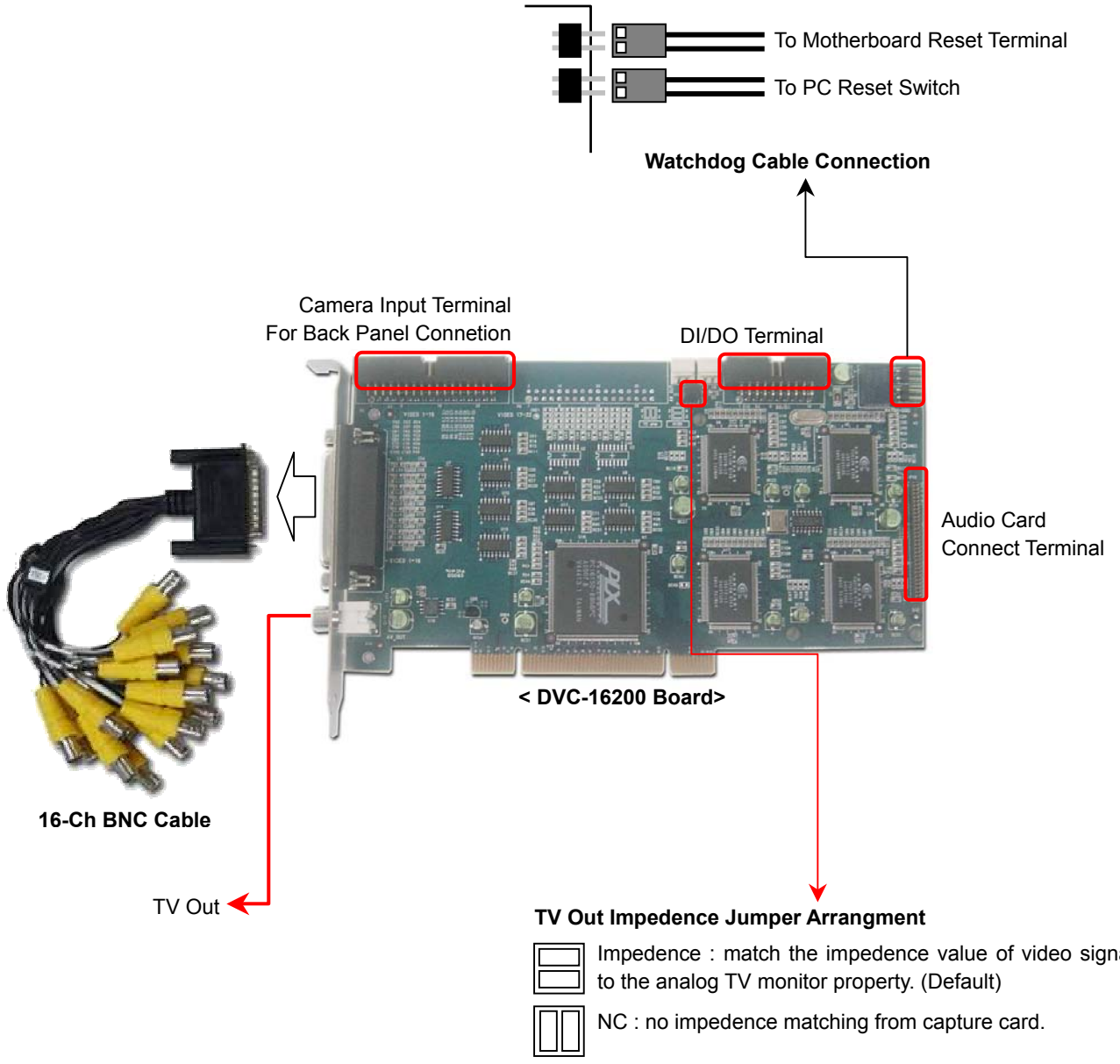
1.4 DVC-16100

Formation : one DVC-16100 board + one 16-Ch BNC Cable



1.5 DVC-16200

Formation : one DVC-16200 board + one 16-Ch BNC Cable



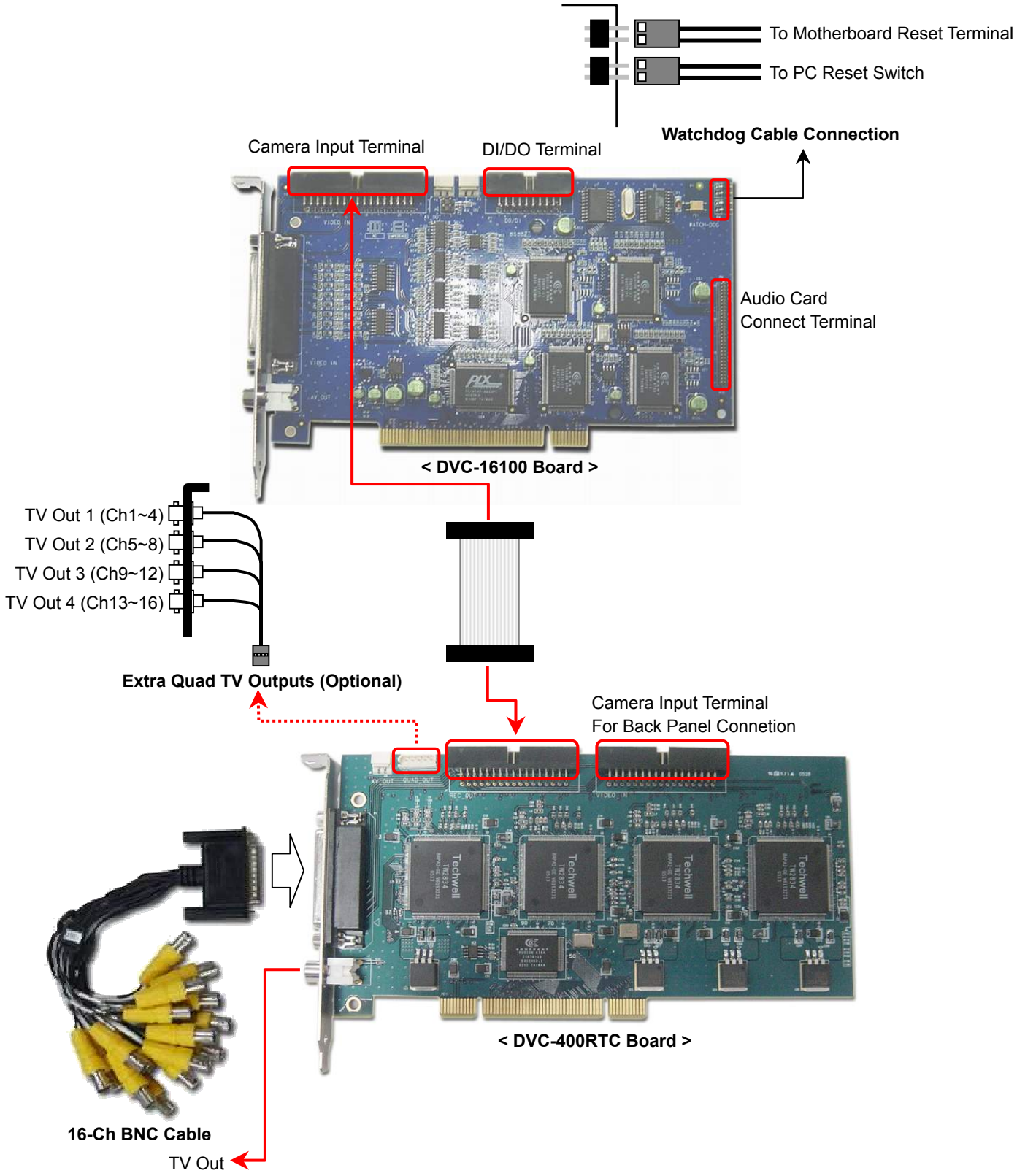
TV Out Impedence Jumper Arrangment

Impedence : match the impedence value of video signal to the analog TV monitor property. (Default)

NC : no impedence matching from capture card.

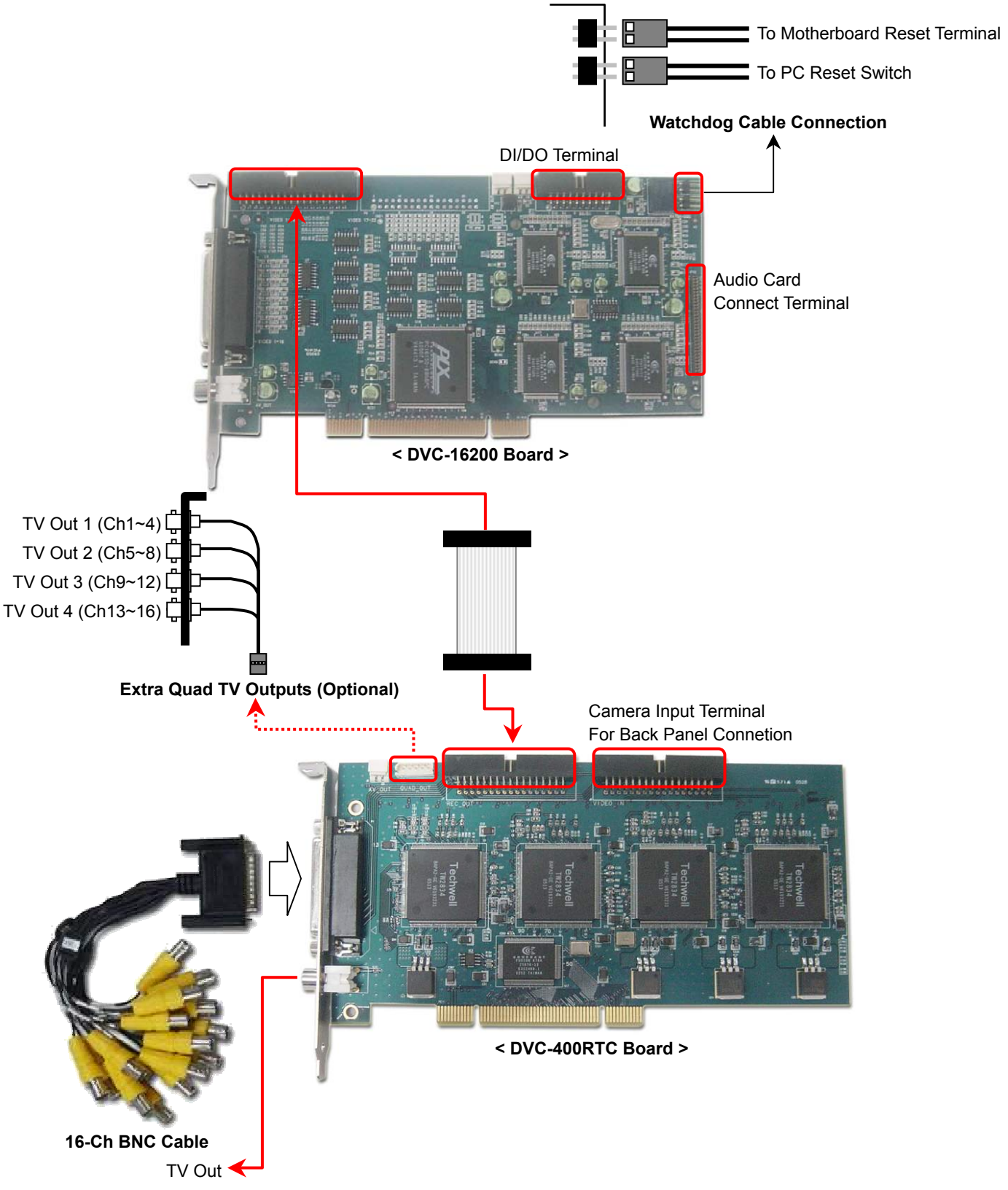
1.6 DVC - 400RTC + DVC - 16100

Formation : one DVC-16100 board + one DVC-400RTC Board + one BNC Cable + one Quad guide



1.7 DVC - 400RTC + DVC - 16200

Formation : one DVC-16200 board + one DVC-400RTC Board + one BNC Cable + one Quad guide

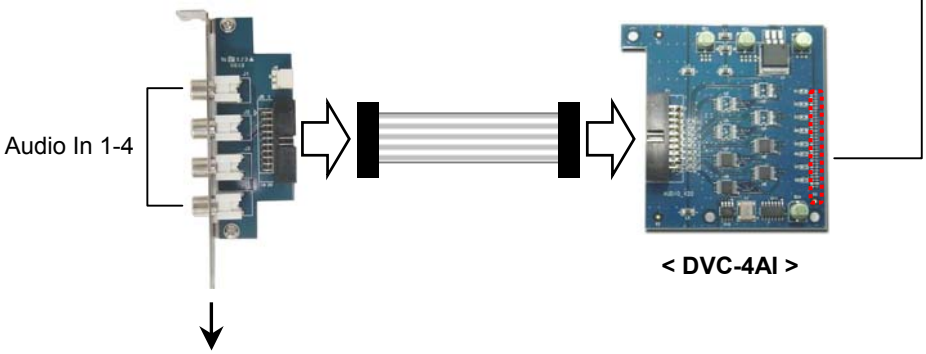


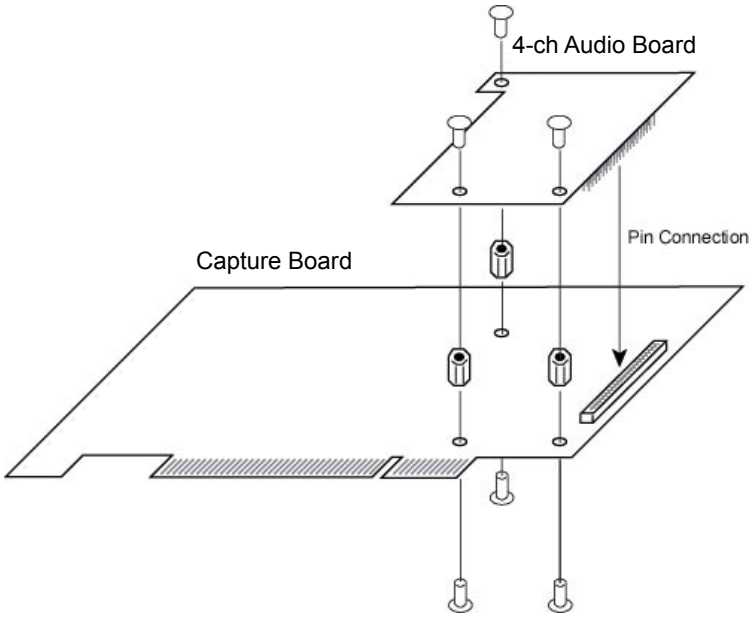
1.8 DVC-4AI

Formation : one DVC-16100 board + DVC-4AI

< DVC-16100 Board >

60 Pin Connection

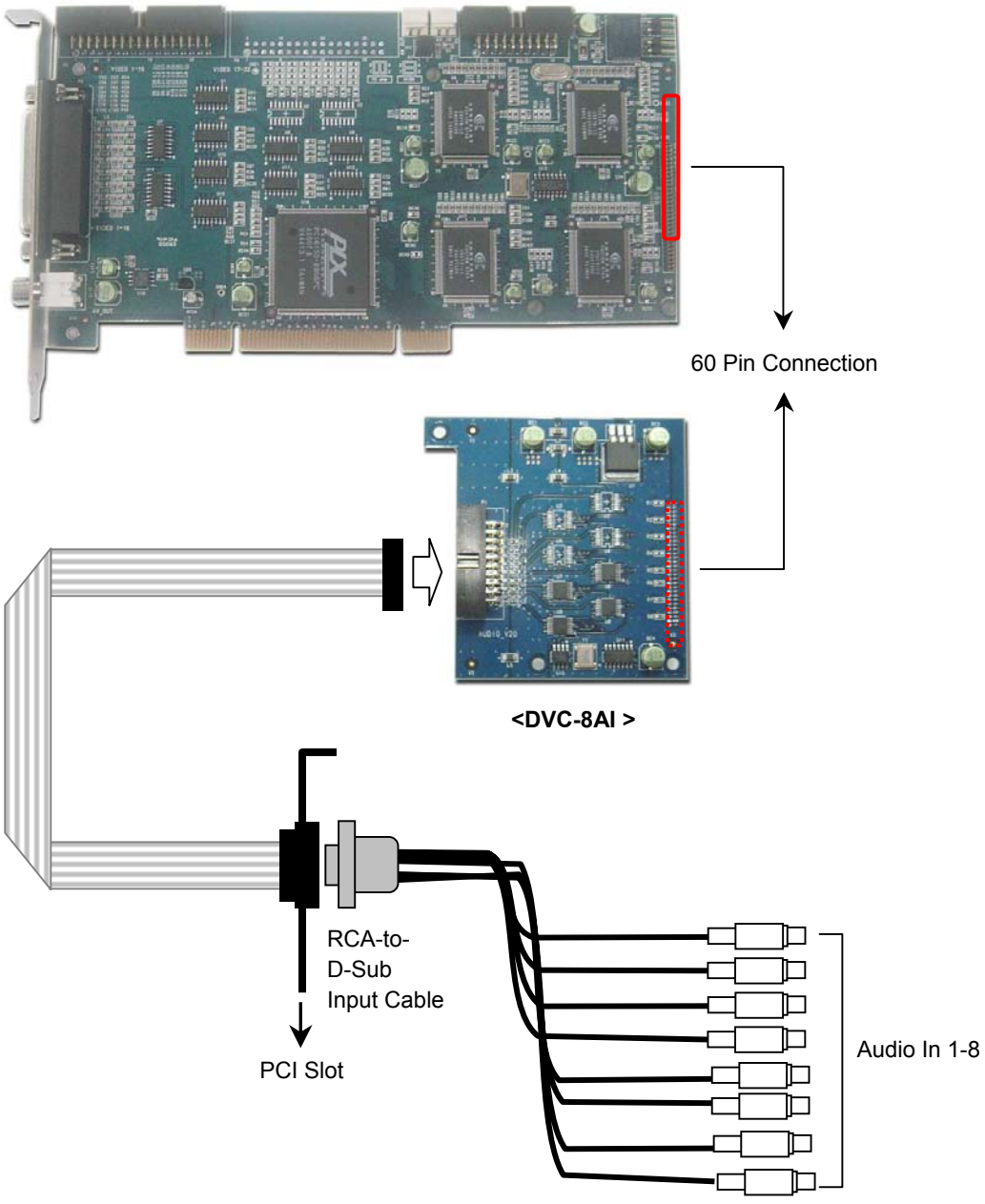




1.9 DVC-8AI

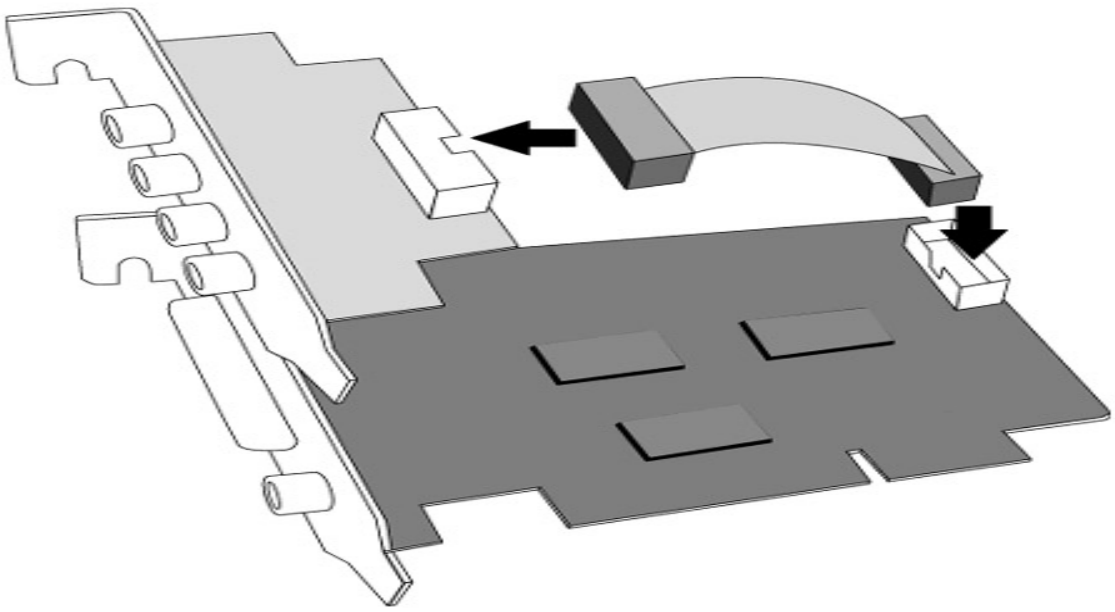
Formation : one DVC-8AI board + one DVC-16200 board

< DVC-16200 Board >



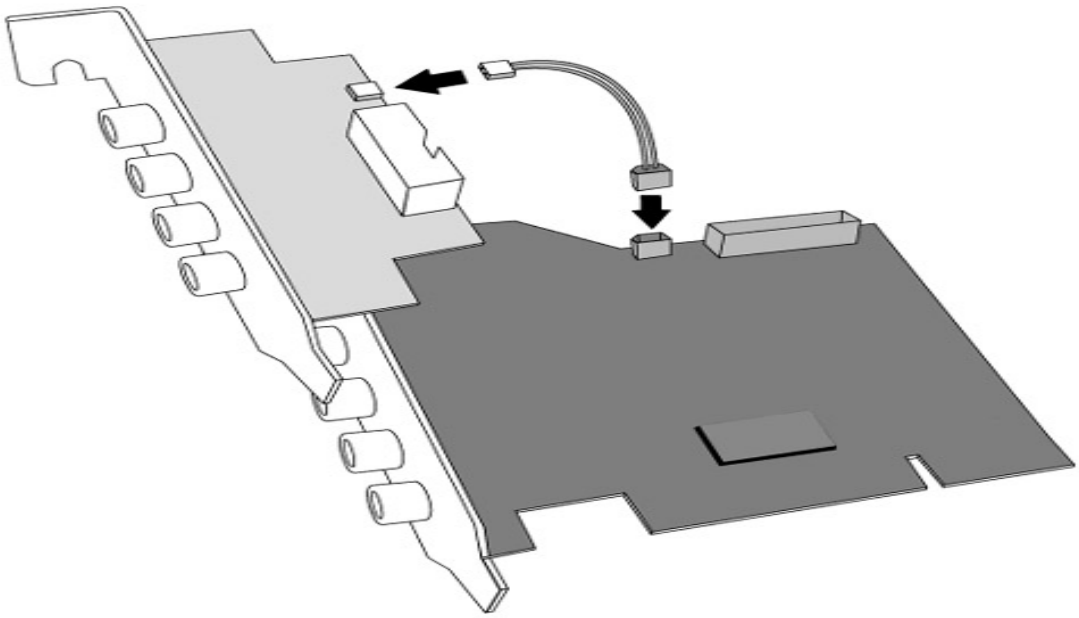
1.10 DVC-2AI

Formation : one DVC-2AI + DVC-1650 + one flat cable

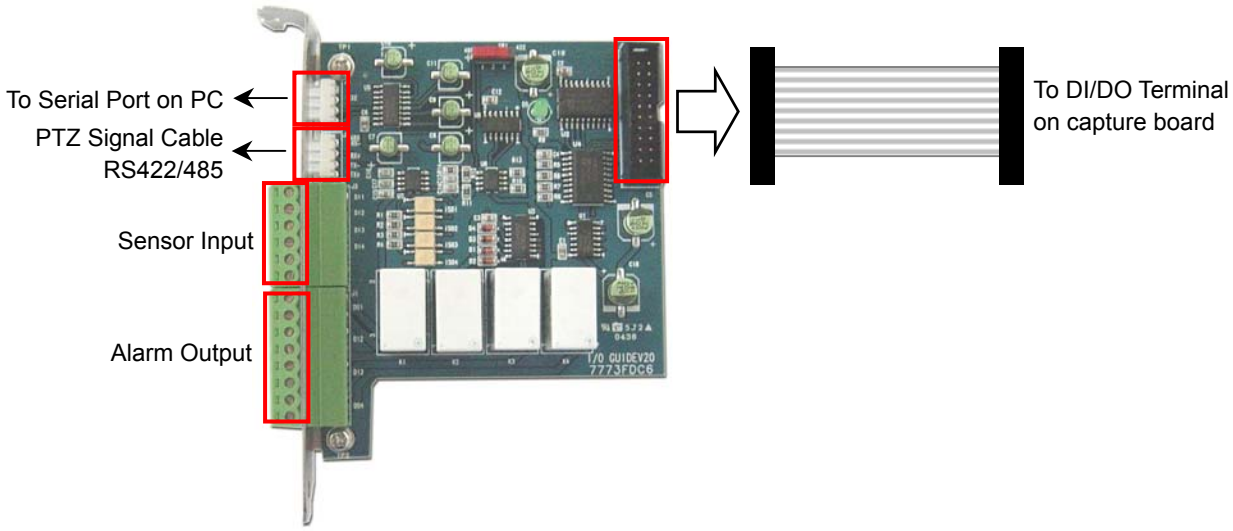


1.11 DVC-1AI

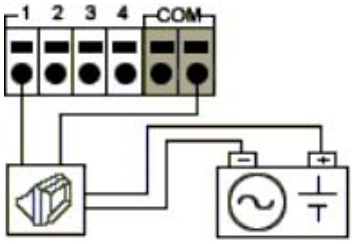
Formation : DVC-1AI board + one DVC-4025 + one AV cable



1.12 DVC-4IO



[Sensor Input Terminal]



1. Connection

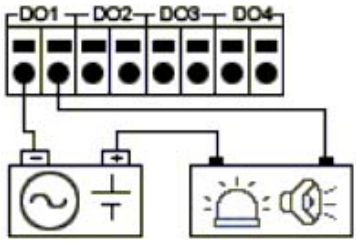
Connect one signal lineto COM port and connect Another signal line to the desired sensor number.

2. Operation

- Normal : 1-4 Terminal & COM Port Open
- Sensor Detection : 1-4 Terminal & COM Port Close

3. At normal close mode, it works reversely.

[Alarm Output Terminal]



1. Connection

Connect both power lines to DO terminal

2. Operation

- Normal : DO Terminal Open
- Control Output : DO Terminal Close

3 D/O Voltage

.DC 30V, 1A or below

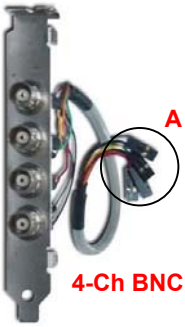
.DC 110V, 0.3A or below

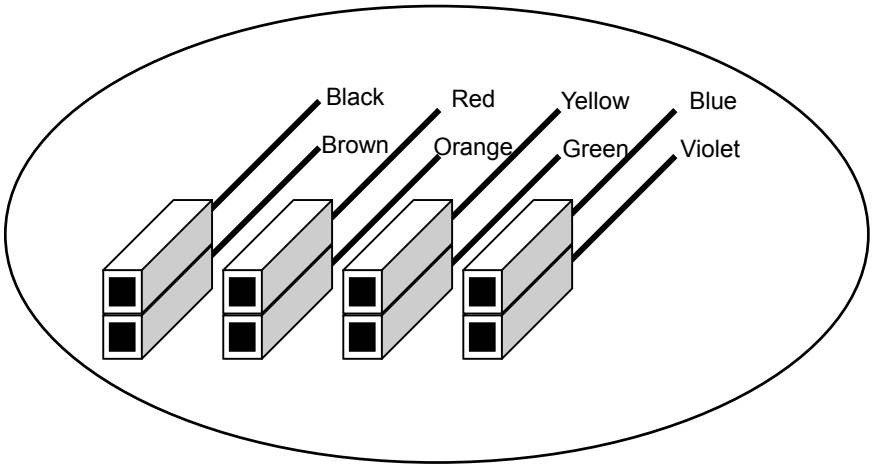
.AC 125V, 500mA or below

Notes ;

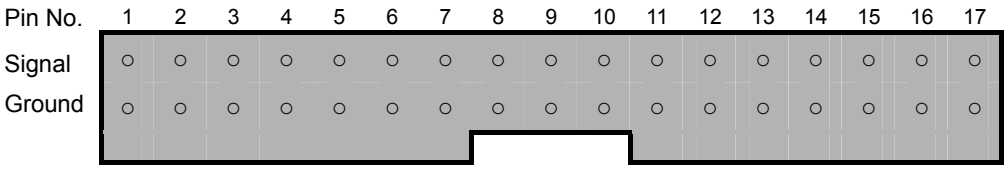
- N/O : Normal Open
- N/C : Normal Close
- DI Operation Mode (N/O or N/C) can be selected from Setup Mode of Sentry Program
- D/O Delay Time can be adjusted from Setup Mode of Sentry Program

1.13 4-Ch BNC Guide Connection to DVR Board





Detail of A



Camera Input Terminal on DVR Board

Line Color Matching to Each Pin on Terminal

Pin No.	**Pin 1**	**Pin 2**	**Pin 3**	**Pin 4**	**Pin 5**	**Pin 6**	**Pin 7**	**Pin 8**
Signal	Black	Red	Yellow	Blue	Black	Red	Yellow	Blue
GND	Brown	Orange	Green	Violet	Brown	Orange	Green	Violet
Pin No.	**Pin 9**	**Pin 10**	**Pin 11**	**Pin 12**	**Pin 13**	**Pin 14**	**Pin 15**	**Pin 16**
Signal	Black	Red	Yellow	Blue	Black	Red	Yellow	Blue
GND	Brown	Orange	Green	Violet	Brown	Orange	Green	Violet

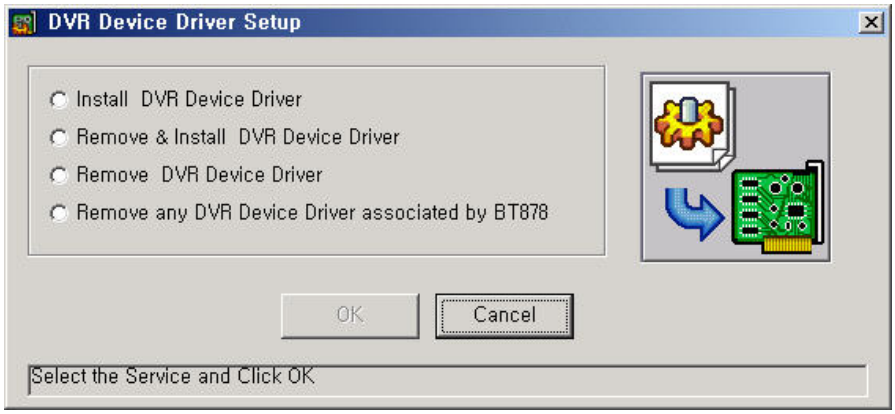
In case of using over two pcs of 4-Ch BNC Guides, you can connect to Pin 5 ~ Pin 16.

Chapter 2
DVC Software

2.1 Driver Installation

1. Simply run “DVRDriverSetup.exe” in “Driver-2005-00-00” folder in CD-Rom provided.

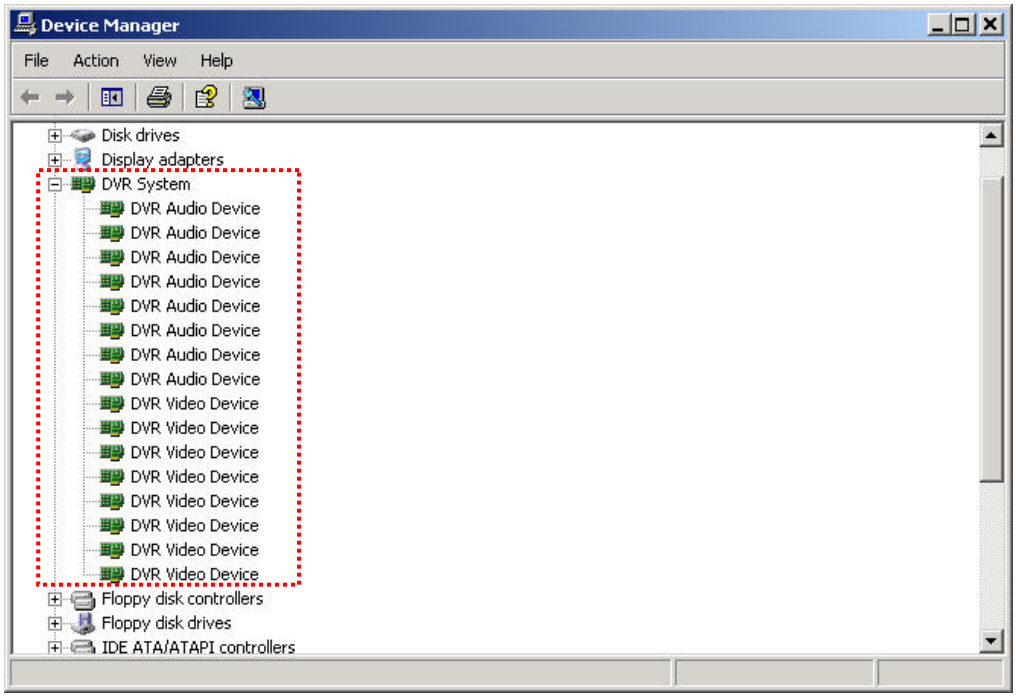
2. Then DVR Device Driver Setup program will come out as shown below. Select one installation option.



- Install DVR Device Driver : select when installing to a new computer after the new capture card assembly
- Remove & Install DVR Device Driver : select when reinstalling to the existing device driver with the latest driver
- Remove DVR Device Driver : select to delete all DVR device driver of our capture card
- Remove any DVR Device Driver associated by BT878 : select to delete all device drivers relating BT878
  (Usable when other brands capture using BT878 was installed previously)

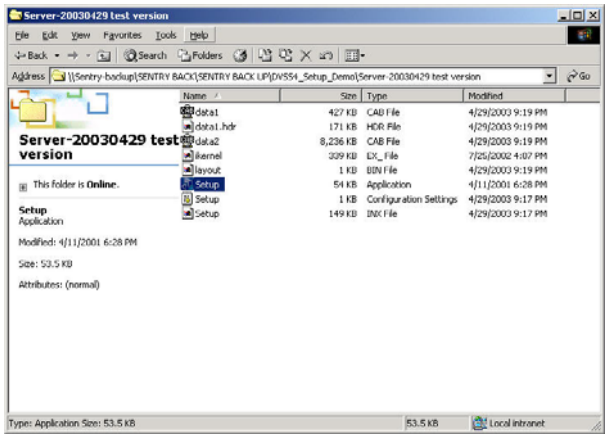
3. Press OK. Then the system will reboot after completion.

Device Manager View After Driver Installation

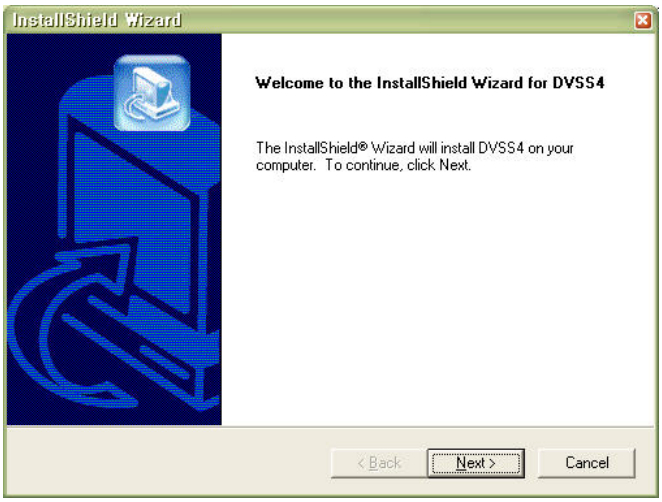


2.2 DVC Program Installation

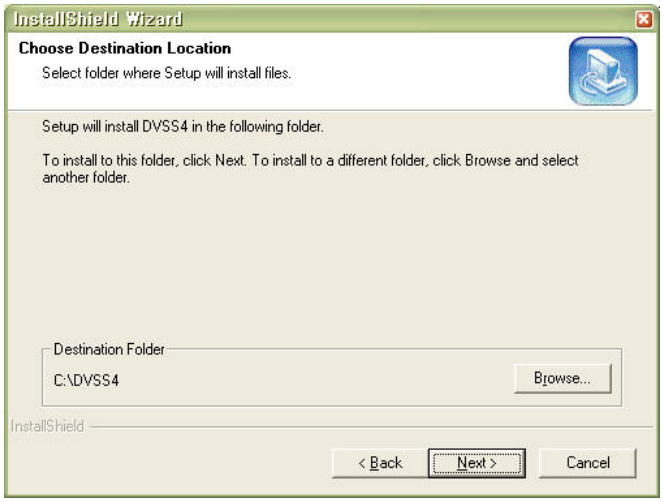
1. Run “Setup.exe” in the folder in the CD-Rom provided.



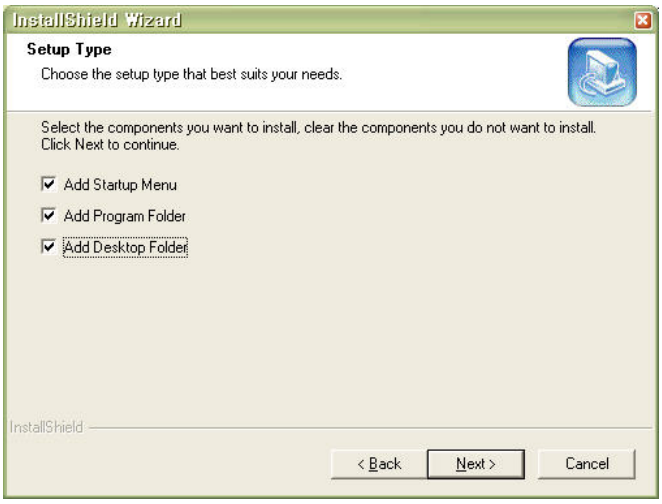
2. Click “Next”



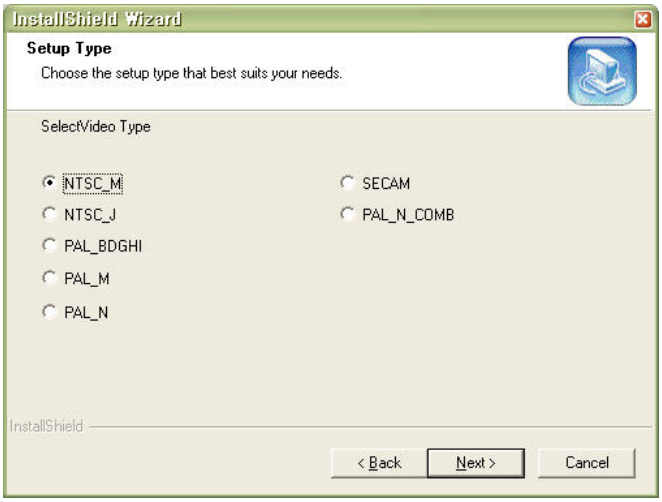
3. Specify the destination to install and click “Next”



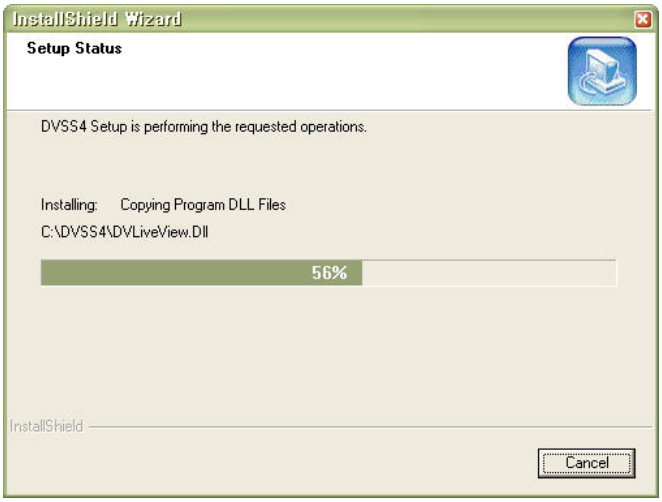
4. Check on three options and click “Next”



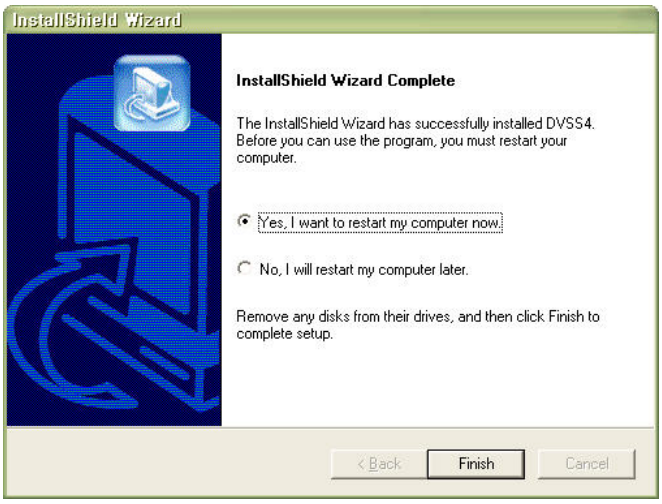
5. Select the video type and click “Next”



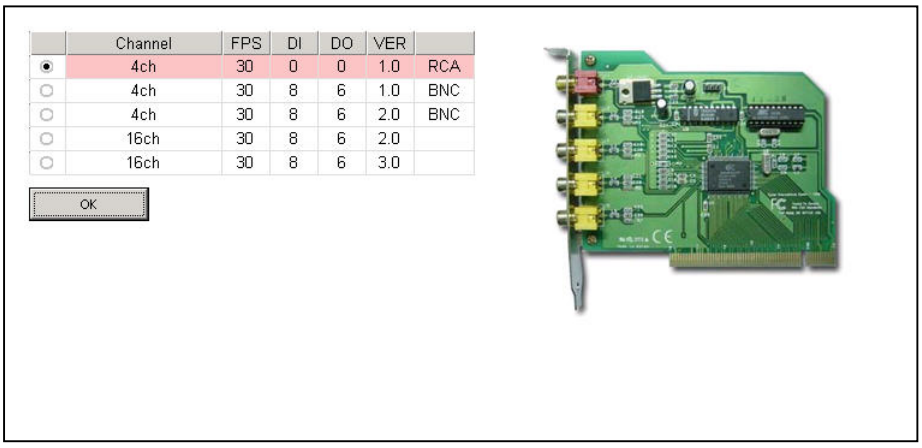
6. Now installation is being performed.



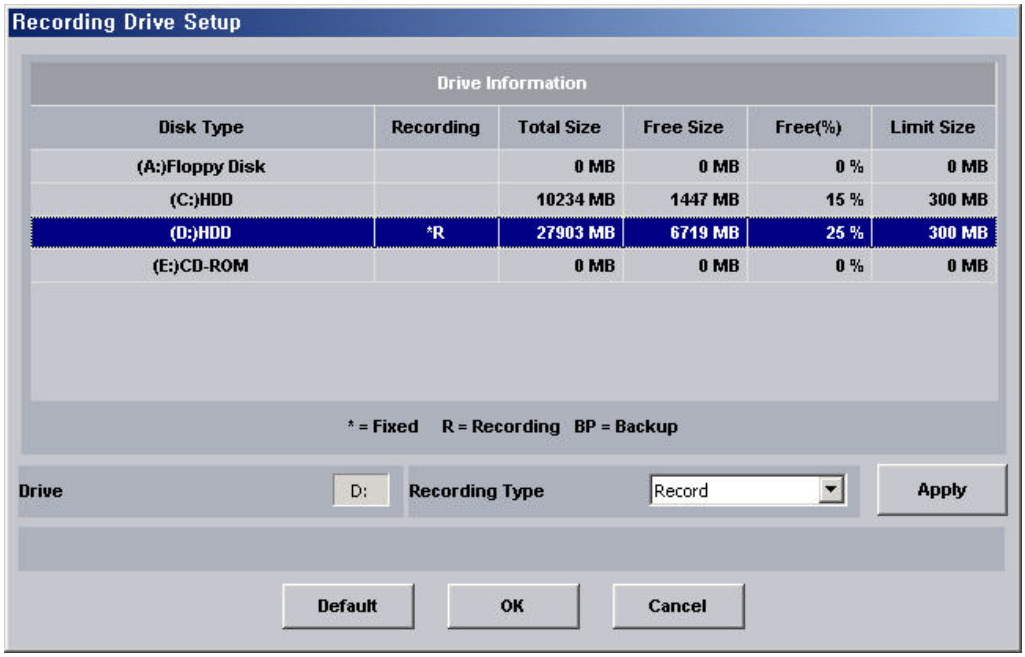
7. Now the installation has been finished. Click “Finish” to restart the system.



8. Then doubleclick “DVSS4” icon on the desktop to run the program. And the board type selection menu will come up. Check on suitable board type from the list and click “OK”



9. Then “Recording Drive Setup” will come out. Select a drive available and select the recording type, “record or backup”. Then click “Apply” and OK”.



10. Then DVR program will run.

2.3 Folders Created After DVR Program Installation

The below folders are created after DVR Program installation.

Folder Name	Description
Language	Language files exist
LogFile	System Log files exist
PanTilt	PTZ Driver files exist
Skin	GUI skin file exists
Sound	Sound files (*.wav) used in DVR program exist
Tools	Utilities exist (Backup, Backup Player & CaptureClear)
Update	Temp folder for download when real-tim update
WebPages	Web files for web service exists

2.4 DVR Program Image Files

There are a few image files used in DVR Program. The files can be replaced with the ones that the users desire to have.

File Name	Description	Size	Format	Path
Logo.bmp	Shown on blank channel where no camera input exists from main GUI	320 X 240	BMP	C:/DVSS4/Image
MiniLogo.bmp	Shown on main GUI to display supplier's logo	98 X 50	BMP	C:/DVSS4/Image
Splash.bmp	Shown when loading Sentry DVR Program	500 X 200	BMP	C:/DVSS4/Image
DVSS4WallPaper.bmp	Wallpaper when used on DVR mode	1024 X 768	BMP	C:/DVSS4/Image
Playbacklogo.bmp	Shown on blank channel where no camera input exists from playback GUI	320 X 240	BMP	C:/DVSS4/Image
Disconnect.bmp	Shown when no video signal	320 X 240	BMP	C:/DVSS4/Image
Note	- You can make image files and copy them to image folder. - In order to apply customized images from install stage, you can make image folder in installation folder (ex ; Server-2003XXXX) and copy the image files to the folder.			

2.5 Language Alternation

You can customize the language used in Sentry DVR Program Setup by editing lanuage file in C"DVSS4\Language folder. Normally the initial language is English after the installation.

Procedure

1. Go to "C"DVSS4\Language".
2. Open "Lang.ENU.ini".
3. Its content is ;

[SYSTEM]

MainColor = 166 184 206 (Basic Color)

TextColor = 0 0 0 (Font Color)

EditColor = 0 0 0

EditTextColor = 0 255 0

FontName = Verdana (Font Name)

FontSize=14 (Font Size)

FontStyle = 700 (Font Type Bold:700, Normal:400)

[MESSAGE] ← Language change starts below this line. Input the term with your language on the right to "= "mark

cancel = cancel

yes = yes ← Ex) yes = si (when changing from English to Italian)

…

[MENU]

[RECORD]

…

Chapter 3
Live Mode

Important Notes Before Running DVR Program

Before Operating DVR Program

1) Recycle Bin Setup

Check on the box “Do not move files to the Recycle Bin. Remove files immediately when deleted.” in the property of Recycle Bin.

2) Display Setup

- Set resolution at 1024x768 and High Color 16bit.
- Set “System Standby”, “Turn off monitor” and “Turn off hard disk” at “Never” in Display Properties\Power Management Properties\Power Schemes.

3) Rebooting Setup

We highly recommend you to set automatic daily rebooting in idle time for most stable system operation.

4) Operating System

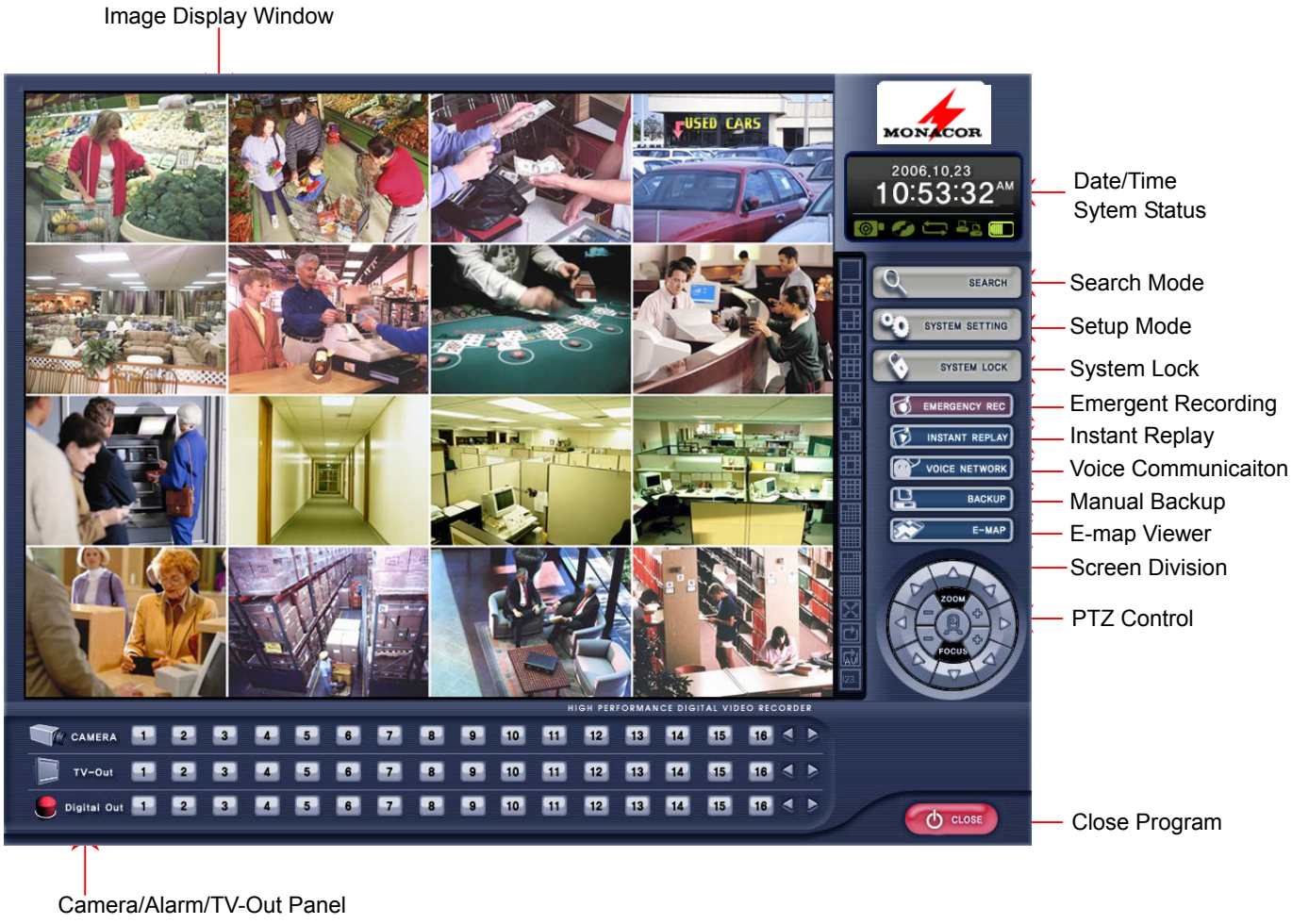
As Sentry Software was bulit on Windows 2000 platform, it operates most stable on Windows 2000 platform.
You can use Windows XP as well.

5) DirectX

DirectX Verison 8.1b or above

3.1 Live Mode

After running DVR program, the below GUI immediately executes. It displays the real-time images coming from the attached cameras and contains functional buttons for switching to other setup modes.



System Status

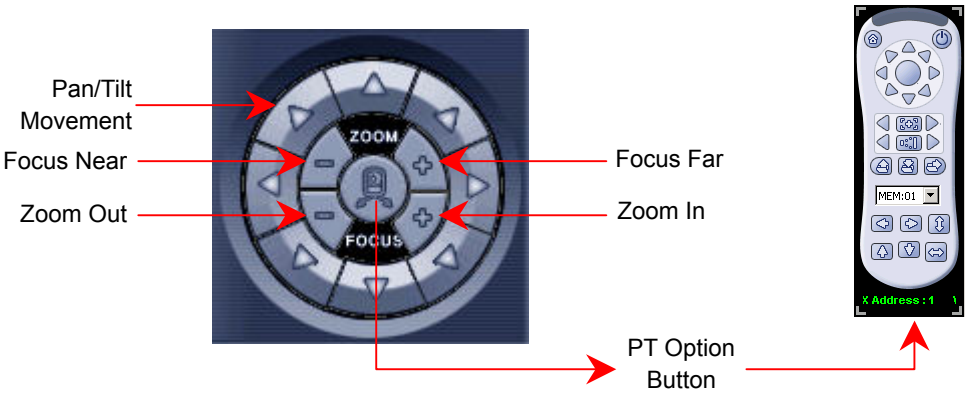
3.2 Selecting On Screen Division Button

1-Split ~ 36-Split

Full Screen Mode
PC Monitor Switching
TV Monitor Switching
Reset Screen

- **Full Screen Mode Button** ; hides all buttons and displays only video. To return, click wheel button on mouse.
- **PC/TV Switching Mode Button** ; video channels on PC and analog TV monitor will be switched in sequential order through selected screen division. Clicking on each screen division button switches videos manually on each screen division.
- **Reset Screen** ; return to default video arrangement in case of moving camera views to another locations by drag-and-drop.

3.3 Pan/Tilt/Zoom Operation



- **If Pan/Tilt is set for the camera from “Camera Setup\Pan/Tilt Setup”, Pan/Tilt icon will be dispayed on the camera view.**
- **To control additional PTZ functions like preset or auto pan, press PT Option Button.**
- **PTZ Controller by PT Option Button looks different depending on PTZ protocol type.**

3.4 Screen Movement

You can freely change the location of each screen by drag-and-drop on display screen.

1. Select the screen which you want to move to another location.

CAM01	CAM02	CAM03	CAM04
CAM05	CAM06	CAM07	CAM08
CAM09	CAM10	CAM11	CAM12
CAM13	CAM14	CAM15	CAM16

Click

2. Drag the screen to the location that you want to move to.

CAM01	CAM02	CAM03	CAM04
CAM05		CAM07	CAM08
CAM09	CAM10	CAM11	CAM12
CAM13	CAM14	CAM15	

CAM16

Drag-

3. Drop the screen to the location where you move to.

CAM16	CAM02	CAM03	CAM04
CAM05	CAM06	CAM07	CAM08
CAM09	CAM10	CAM11	CAM12
CAM13	CAM14	CAM15	CAM01

Drop

You can return back to default status clicking reset button on screen division select button.

3.5 Camera/Alarm-Out/TV-Out Panel

1. Camera Select Panel

On each split mode of screen, clicking one channel button will show the split mode including the channel clicked.

(ex : If on 4 split mode with 16 ch inputs, clicking no. 1 channel will display no.1 to 4 ch and clicking no. 5 will be no.5 to 8 ch.)

In case of over 16 cameras connected, you can switch from no.1 to 16 to no.17 to 32 by clicking the arrow button on the right.

2. TV-Out Panel

Shows the current channels sent to TV monitor. Select the channel to view from TV monitor by clicking.

- **Applicable on Sentry 1004 to 3016 models**
- **Only the channel checked on "Enable AV-Out" in Camera Setup Mode will be displayed through TV monitor.**

3. Alarm Panel

Shows alarms connected. Clicking each alarm no. will send alarm out.

3.6 Instant Replay

This function enables the playback on one channel selected for the recent time selected while on live mode.

1. Click the camera view that you want to play.
2. Press Instant Replay Button.
3. Then playback for the selected channel will be run in pop-up window on live mode as shown below.
4. To change the previous time of reply (1 to 60min), select from pull-down menu. The change will effect from next run.

- **To view the video in other time, stop playing and select the time in the below list. And press play button again.**
- **Previous time for instant replay can be set from Previous Time Selection Bar. The setup will effect when next instant reply run.**

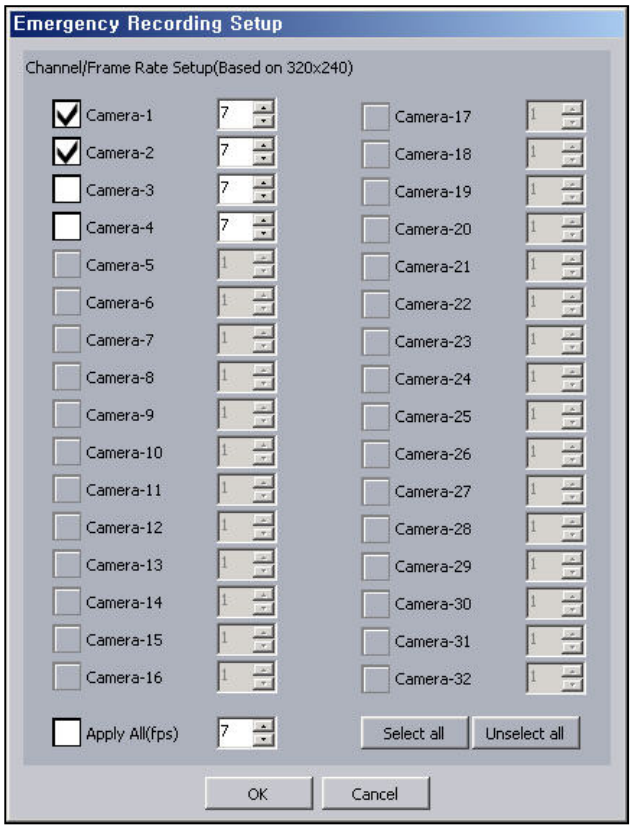
3.7 Emergency Recording

This function enables the current recording mode to switch to continuous recording and higher frame rate recording while the button is pressed in the emergent case.

The default frame rate for emergency recording is 5fps.

1. Emergency Recording Setup should be done first..

2. You can enter the Setup by moving to “Recording Schedule Setup\Emergency Recording Setup” or right-mouse-clicking on Emergency Recording Button. Check on video channels to run emergency recording on and set emergency frame rate each. Or if you want to apply the same frame rate to whole channels, check on “Apply All(fps)”, then set frame rate.



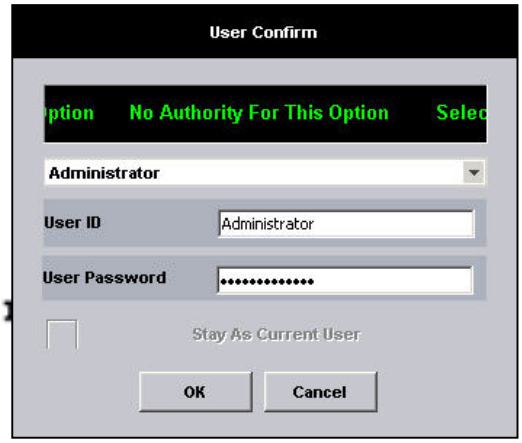
3. While in emergency recording mode, the recording will be by the frame rate set from “Emergency Recording Setup” contiously. For stopping emergency recording, press the button again.

3.8 System Lock

This function switches to password protection mode after the button is pressed.

1. Press Password Lock Button once. Whole function modes will require password input afterward.

2. In order to enter ID and PW when asked for. One default ID (Administrator, Manager and General) can be chosen from the pull-down list. Or you can write your own ID registered on User Registration Menu.



3. To be released from Password Lock Mode, press the button once again and complete ID and PW confirmation.

3.9 Manual Back-up

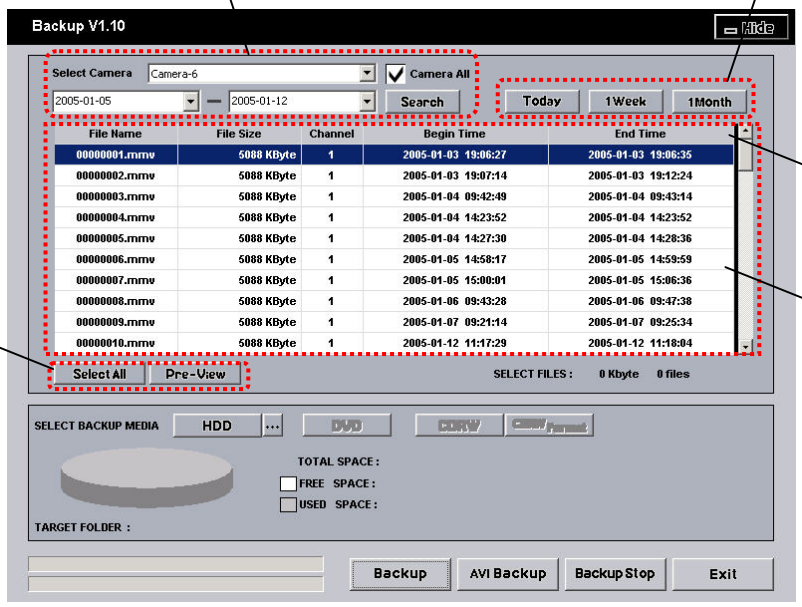
This function is for manual backup to the specified folder in local hard drive, CD-RW, DVD Writer or CD-Rom.

1. Simply press Manual Back-up Button.

2. Then the below backup program will run. Select the recording files to back up after search.

Specify the period / video channles with recordings and click search

Automatic search period select

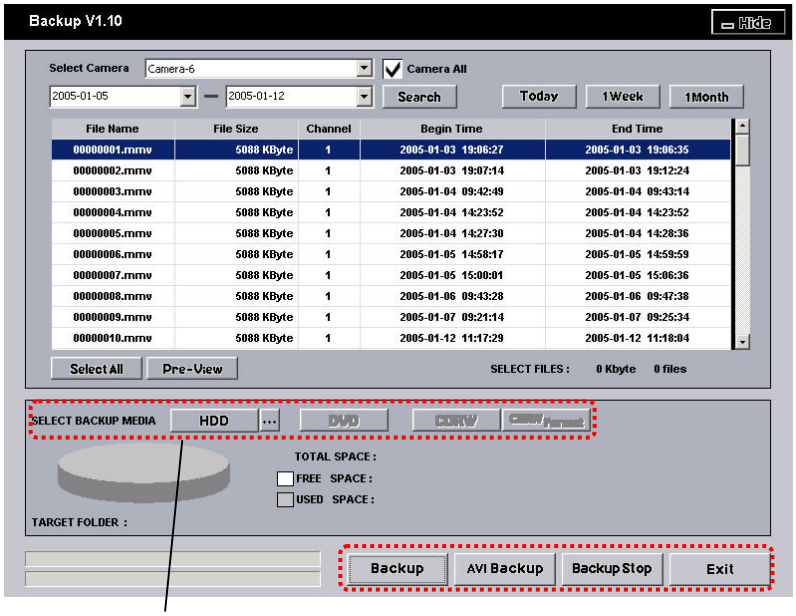


To select all files to press Select All
To view file, press Preview

Click each title in order to sort files by subject.

Shows recording files after search. Select the files to back up.

3. Select backup location as below.



Specify the folder in local or network hard to back up recording files. If DVR or CDRW is installed, press DVD or CDRW.

Back : start backup procedure
AVI Backup : back up selected files to AVI format
Backup Stop : stop backup procedure
Exit : exit from Backup Menu

- **Concerning backup method to DVD or CD-RW, refer to the CD-RW backup manual provided seperately.**
- **To view backup recording files, use DVSS4Player.exe from C:\DVSS4\Tools. See page 58 to know the usage.**

You can also use separate player installation version to play back-up files from other PC without DVR program.

3.10 E-map

This function is to create and view e-map in which locations of the cameras, sensors, and alarms are displayed.

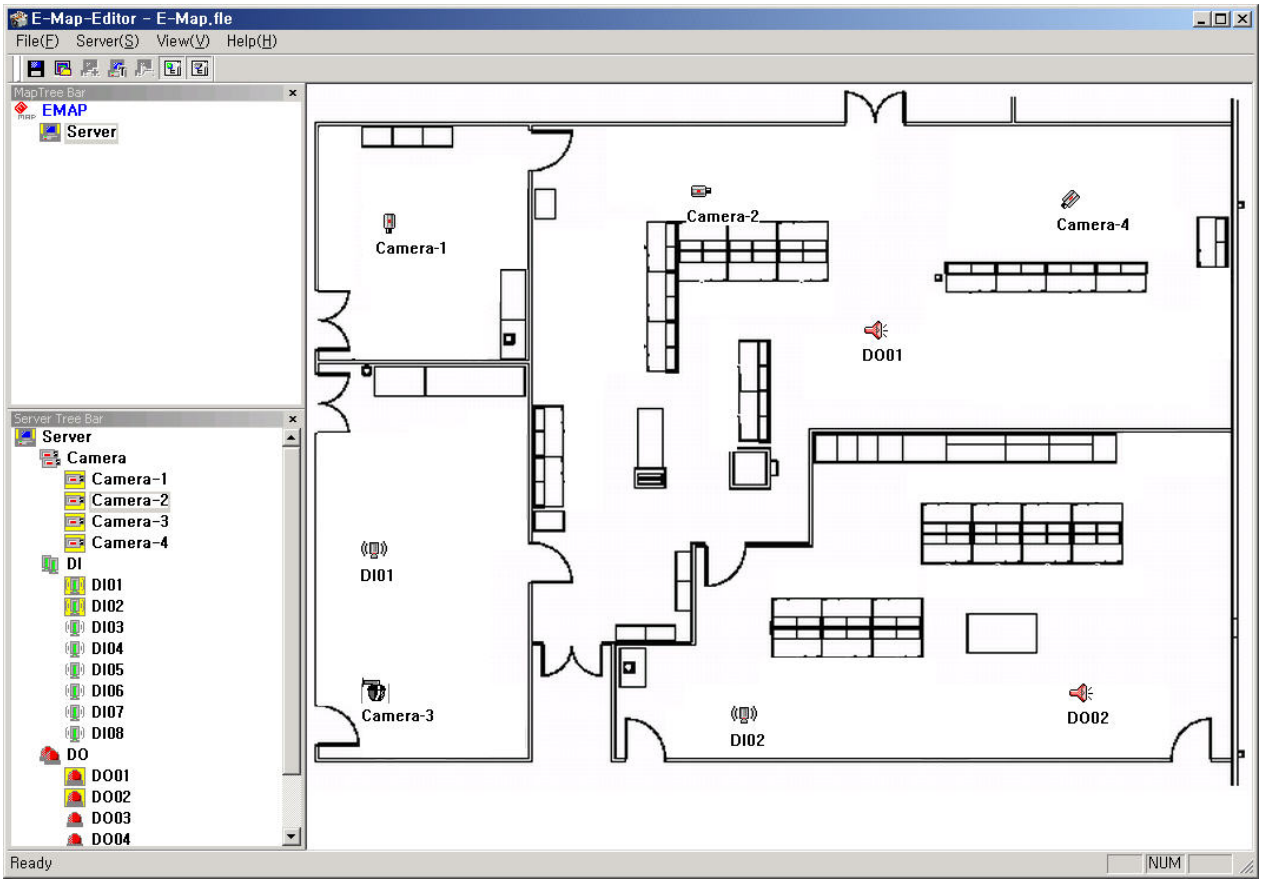
Creating E-map

1. Run Edit E-map from Control Setup. Then E-map Editor will run.

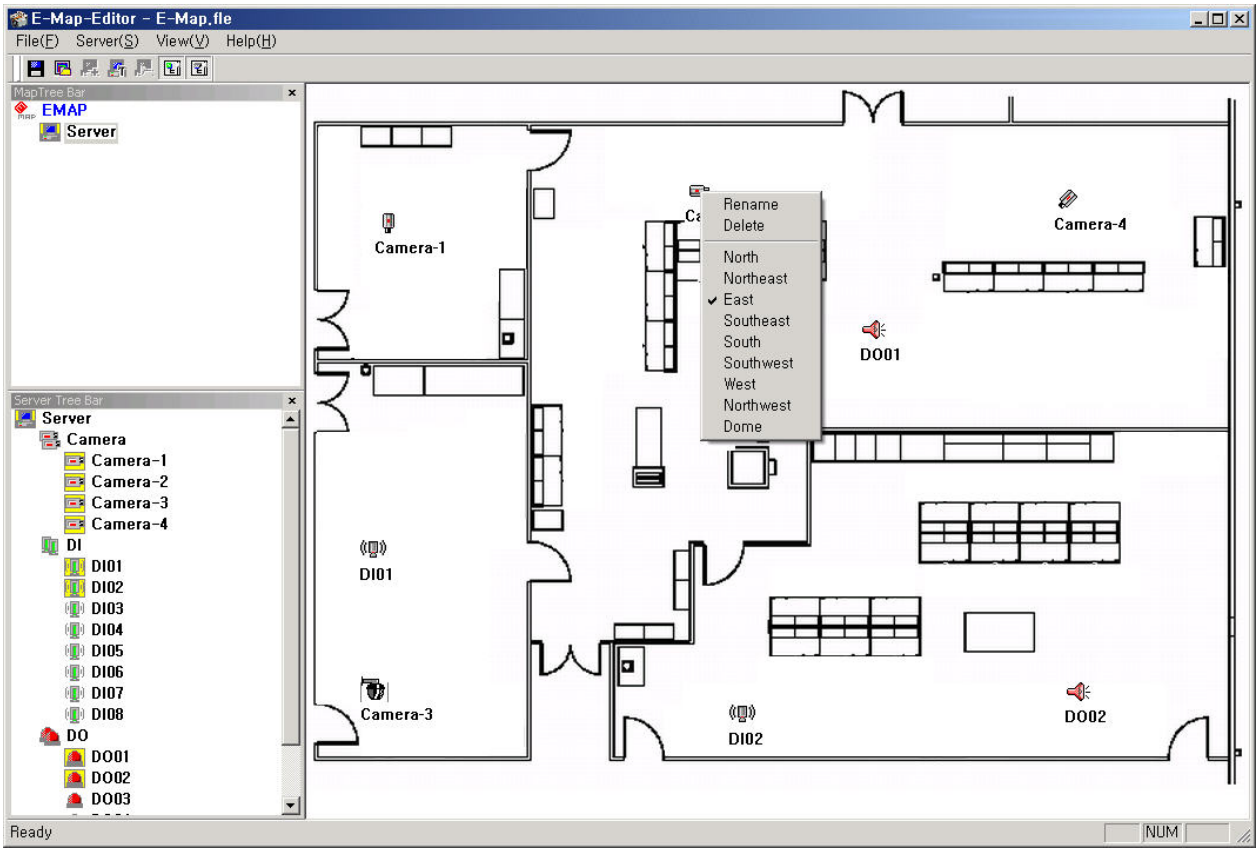
2. Right-click on Server icon in Map Tree Bar and select Load Image.

3. Select the image file to be used for E-map (BMP, Jpeg or GIF images can be used).

4. Drag camera, DI and DO icons from Server Tree Bar and drop on the desirous postion in the image. Used icons are displayed with yellow box.



5. Use right-mouse menu on icons on map to rotate cameras, use different type icons, rename or delete icons.

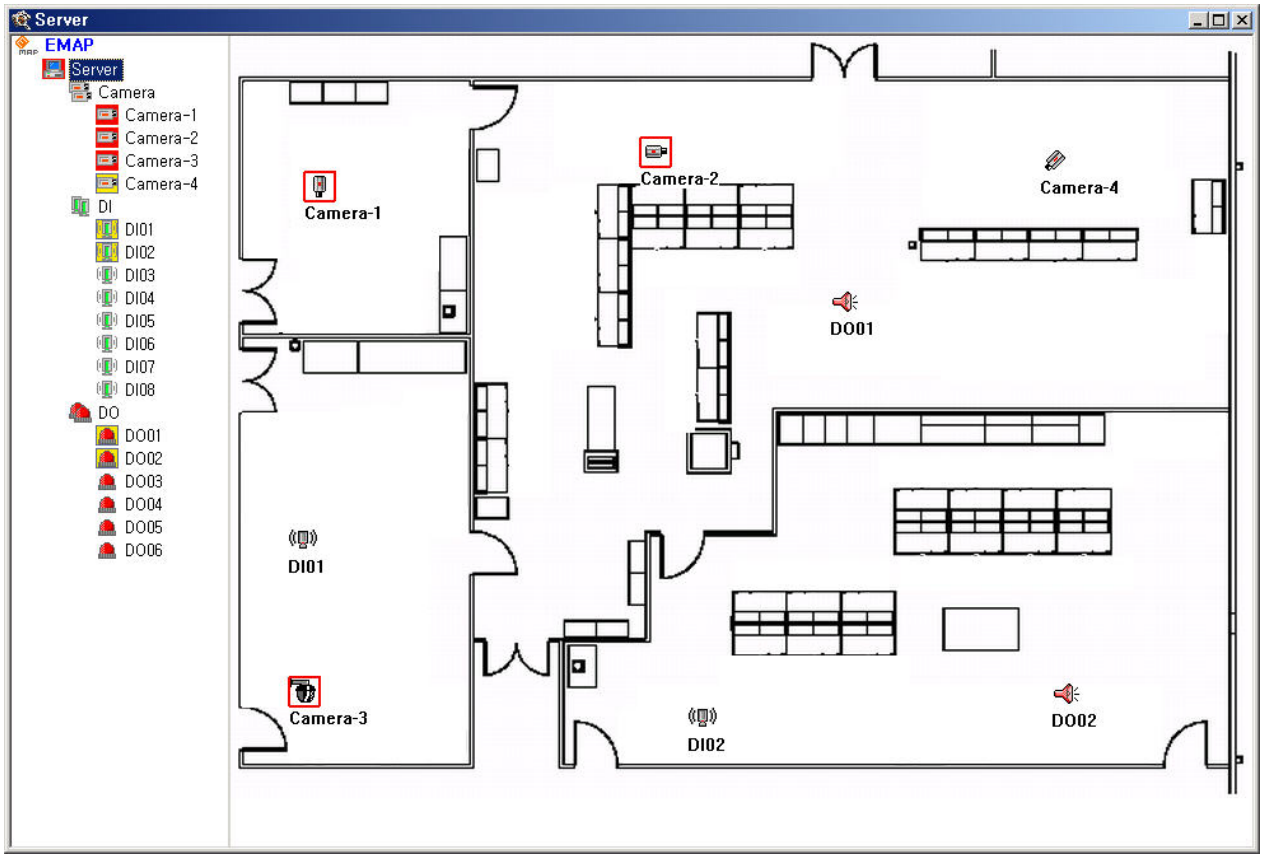


6. Save the changes of the e-map.

Viewing E-map

1. Press E-map from live mode.

2. Then locations of cameras, sensors and alarms are displayed on the map. And motion and sensor events are displayed in red flash.



3. To view the live image, click each camera icon. Or to activate the alarm use right-mouse menu on DO icons.

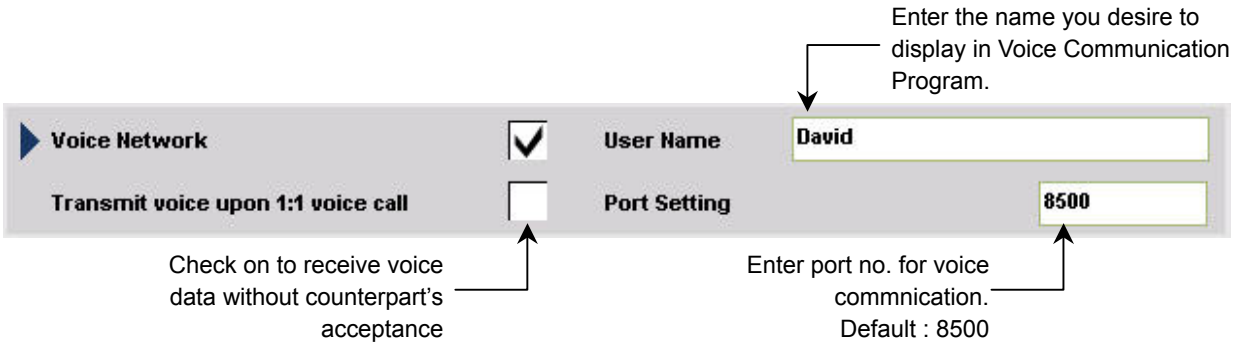
3.11 Voice Communication

While the users monitor the remote DVR from Remote Client Program, they can talk with the personnel at the DVR site through internet using this two-way voice communicaton function.

Make sure that your PC speaker and microphone are properly connected to Line-out and MIC port on soundcard.

1. Setup From DVR Server

For two-way communication, Voice Network option must be checked on from Network Setup.



2. Setup From Client Side

The same procedure is required at Client Option Setting from remote client site.

3. Starting Voice Communication

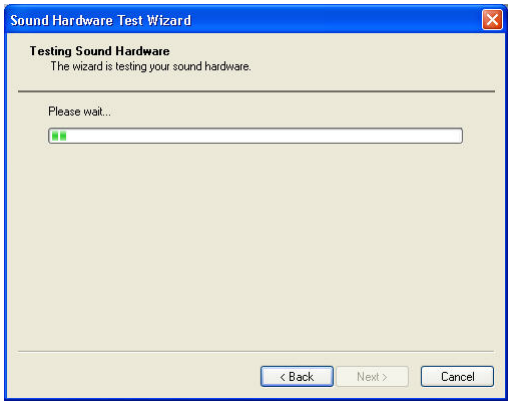
Press Voice Communicaton Button to start from DVR Server or Remote Client Program.

4. Sound Hardware Test Wizard

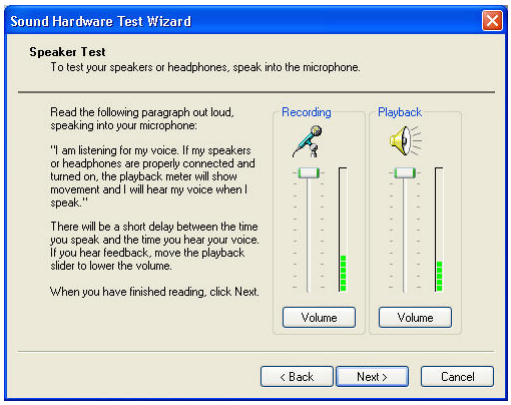
If it's the first time for using Voice Communication, Sound Hardwar Test Wizard will start upon pressing the button.

1) Press Next when Sound Hardwar Test Wizard starts.

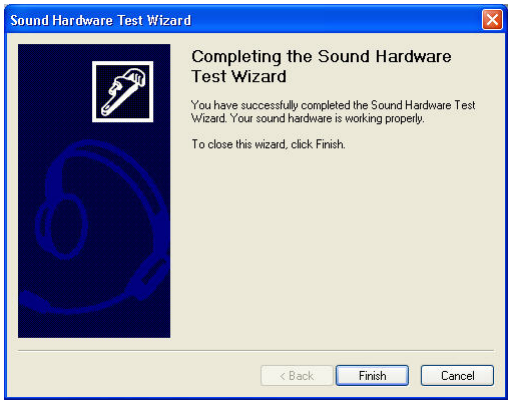
2) Then Wizard will be testing sound hardware.



3) Test the microphone and speaker volume and press Next when done.

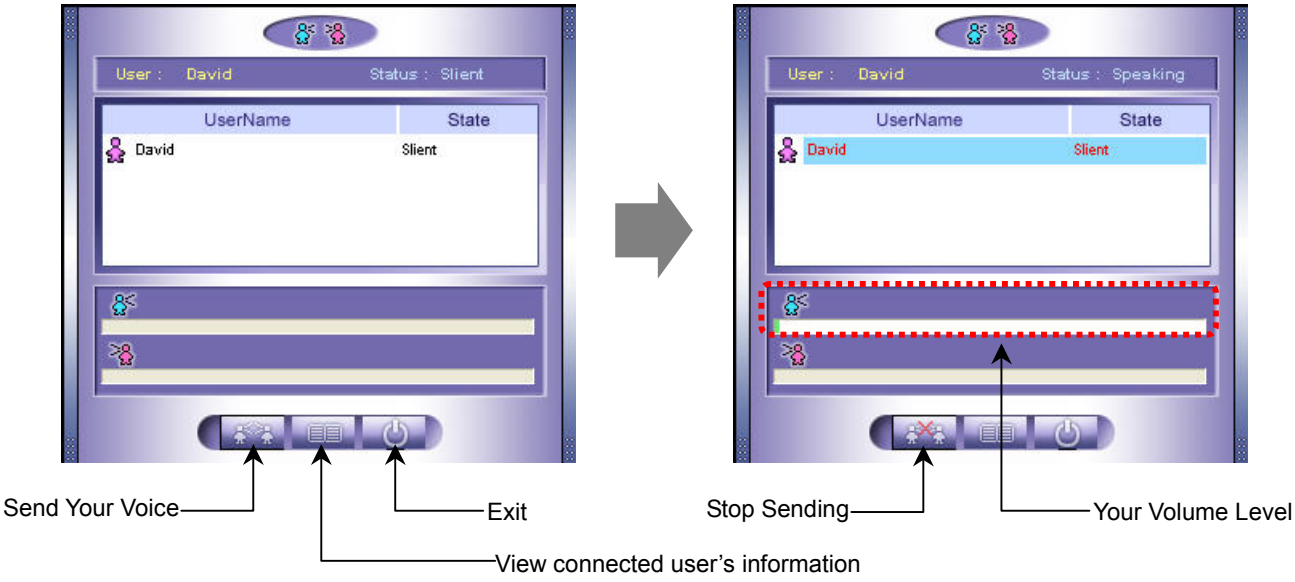


4) To complete, press Finish.

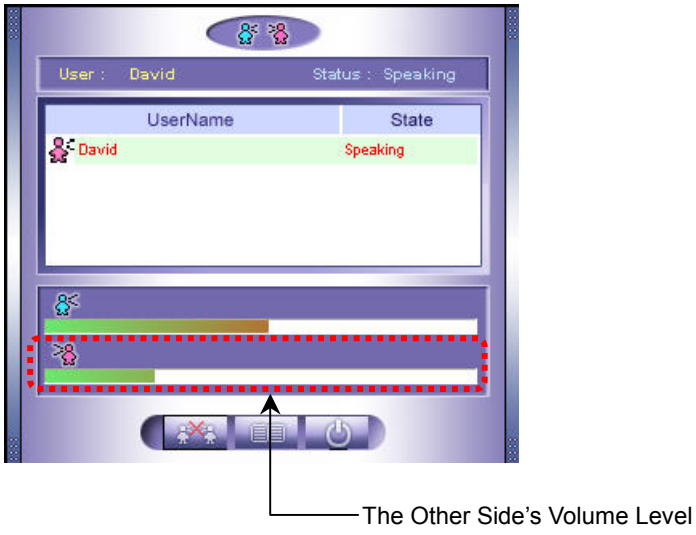


5. Using Voice Communication Program

Upon pressing Voice Communication Button from from your side, the below program will appear. Select the connected user. And press button to send your voice to the other side.



When the other side presses the same button, you can receive the voice from the other side then.



□ **When "Transmit voice upon 1:1 voice call" option is checked, you can receive the other side's voice upon starting sending voice.**

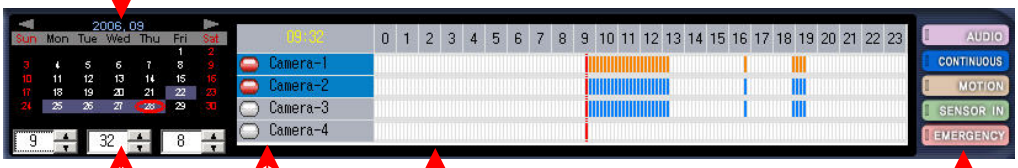
Chapter 4
Search Mode

4.1 Search Mode

By clicking search mode button, you shift from display mode to search mode where you can playback the recording images. □ **Default is no image with 4-split mode. Click play button and select your desirous split mode.**

Video Data Search

Search through calendar



Search through digital clock

Viceo Ch. selection to search. Disabled or enabled by click

Video data indicaction by hour

Recording Type Selection

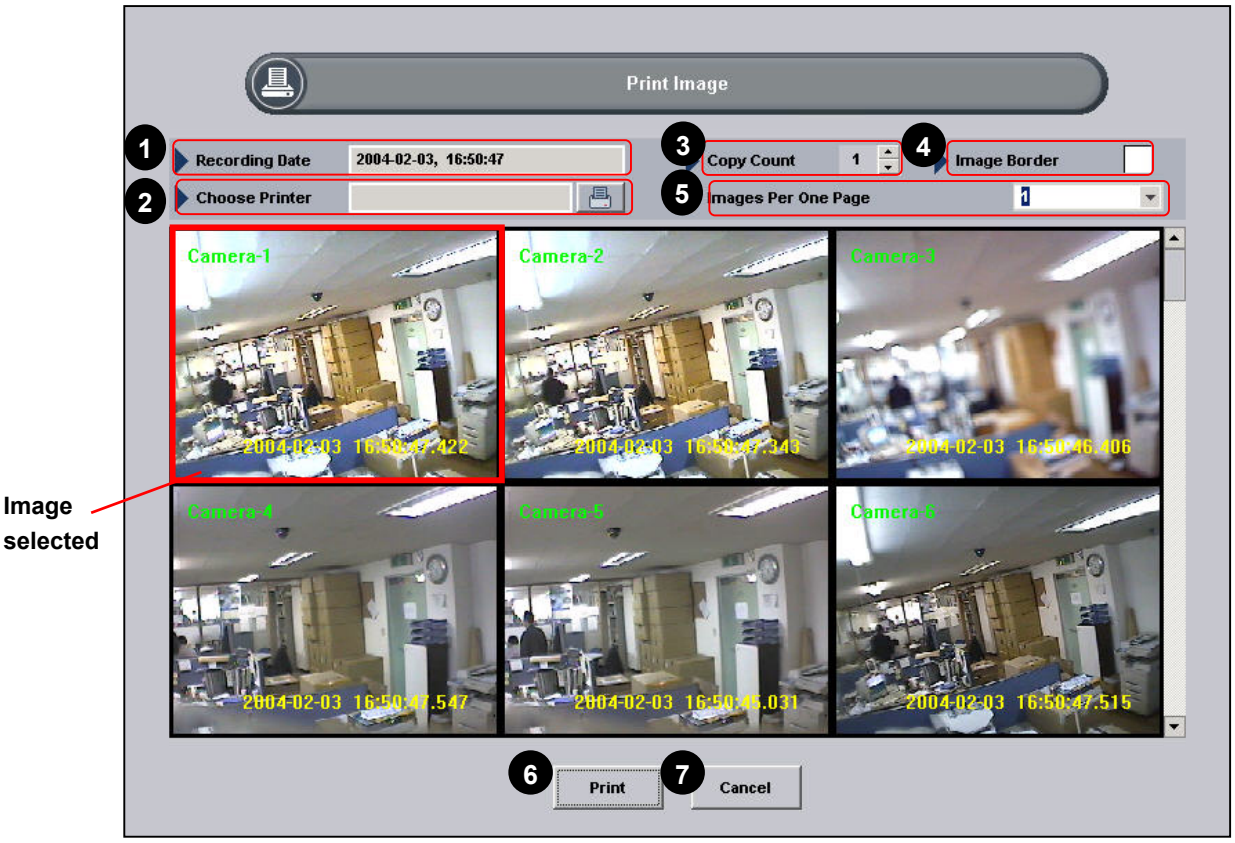
Playback Control

Move frame ahead□Play reverse□Stop□Play□Move frame back

□ **During playback, all functional buttons are disabled. In order to use other search functions, press Stop.**

4.2 Print Images

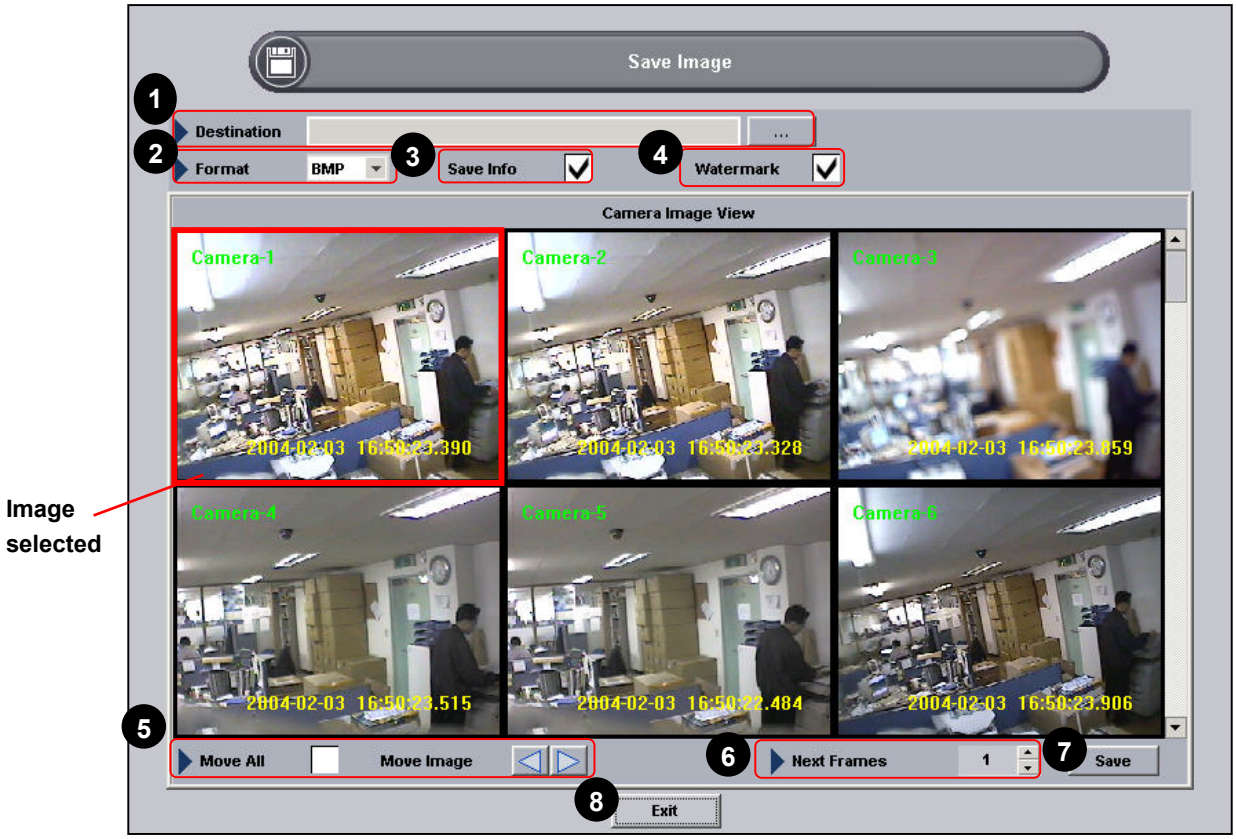
To print the images being displayed, simply press PRINT button. Double-click each image to select the images to print. Set printing options as you like. Then click PRINT utton.



1. Recording date : shows the date and time of recording image
2. Printer Selection : enables the selection of printer installed on your Windows
3. Copy Count : can select the number of copies that you desire to print
4. Image Border : creates border line of paper used
5. Image Per One Page : specifies the number of images on one page to print
6. Print
7. Exit from the print menu

4.3 Save Images To BMP/JPEG/AVI

To save the images being displayed, simply press SAVE button. Double-click each image to select the images to save to BMP/JPEG/AVI. Set the options as you like. Then click SAVE button.

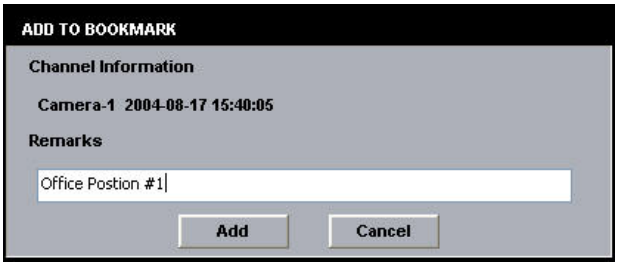


1. Destination : specifies the folder where the files are saved.
2. Format : can select the format of images saved (BMP, JPEG or AVI)
3. Save Info : check to display the image information of the image saved
4. Watermark : check to add digital watermark on the image saved (applied to BMP image only).
5. Move Image : click right or left arrow button to move selected channel to next or previous frame (check on “Move All” to move all channels at the same time).
6. Next Frames: Save next frames to the frame shown with the number set
7. Save
8. Exit from the print menu

4.4 Add To Bookmark / View Bookmark List

Add To Bookmark

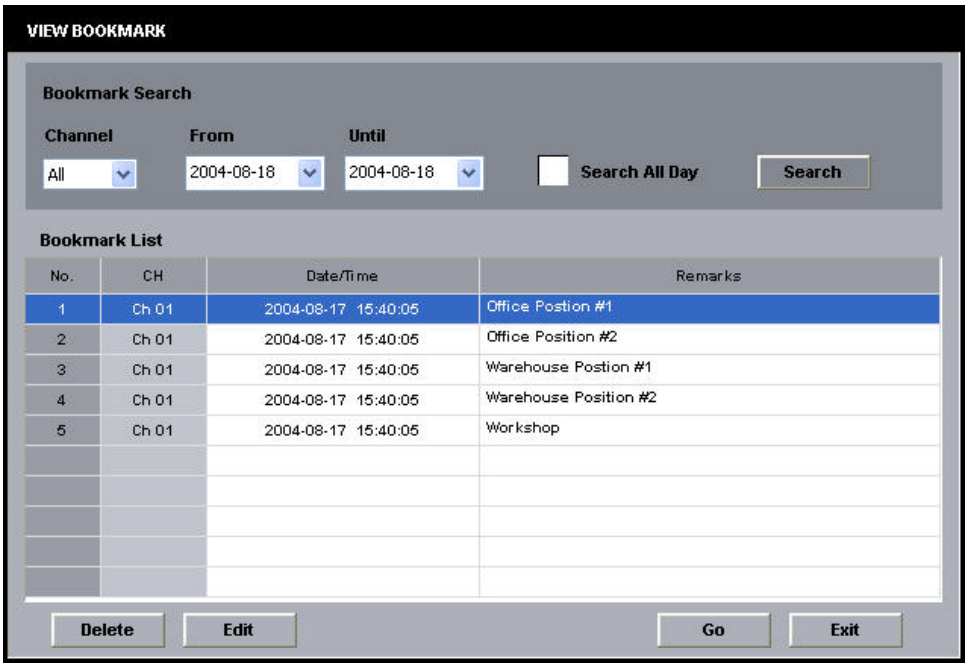
1. Select the specific camera view and click “Add To Bookmark Button”
2. Enter the remarks in the blank. And clieck “Add”.



3. Then the bookmark will be saved on the bookmark list.

View Bookmark List

1. Click “View Bookmark List Button” to search and view bookmarks
2. Select specific channel or whole channles, and the period to search bookmarks.
3. Click “Search”. Then bookmarks will be listed as shown below.



4. Select one bookmark and click “Go”. Then the selected image will be played in one-split mode.

 To delete the bookmark , select one and press delete button. You can select multiple bookmark by using Ctrl or Shift Key together.

 To edit the remak of the bookmark, press “Edit” and change the remark.

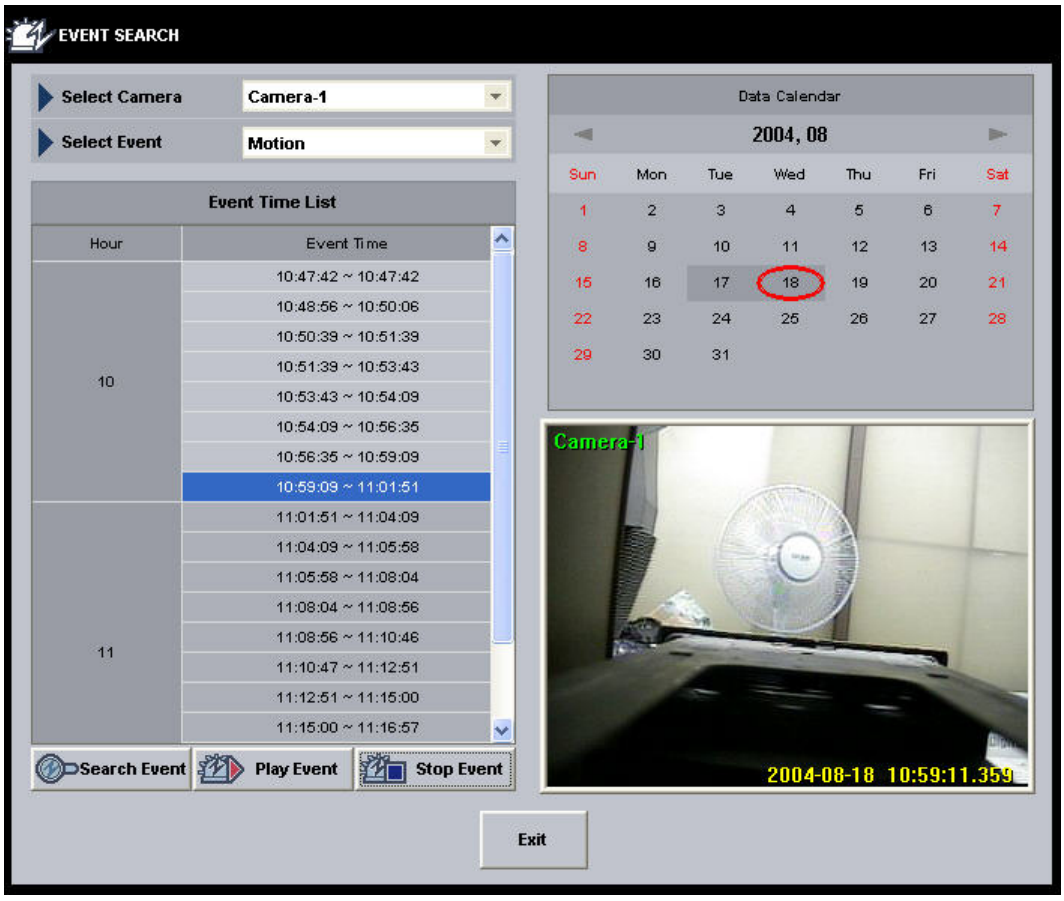
4.5 Search Setup

You can select the recording information to be displayed on playback video.

4.6 Event Search

This function allows user to search motion or digital-input event recording on the selected date,

1. Press “Event Search Button” from Search Option Menu.
2. Select the date and the channel to search event. Then select event type (motion or digital-input).
3. Press “Search Event”. Then search result will be shown as below.



4. Select one event and press “Play Event” to play on preview screen. Press “Stop Event” to stop playing.

4.7 Object Search

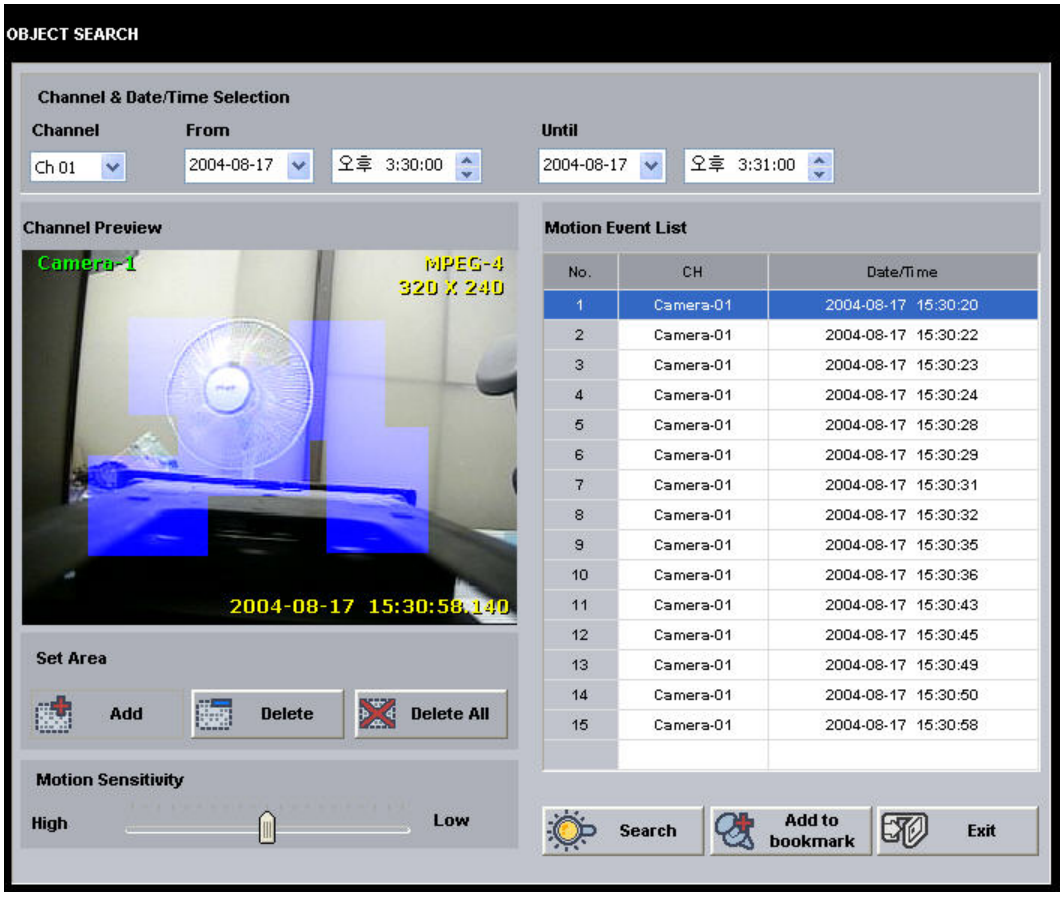
This function allows user to search the movement of object in the particular area selected on the date/time selected.

1. Press “Object Search Button” from Search Option Menu.

2. Select the channel and date/time to search object.

3. Press “Add” and draw regions on preview screen. To delete regions, press “Delete” and just draw rectangular regions on the current regions drawn. To delete all regions, simply press “Delete All”.

4. Press “Search”. Then search result will be shown on Motion Event List as shown below.

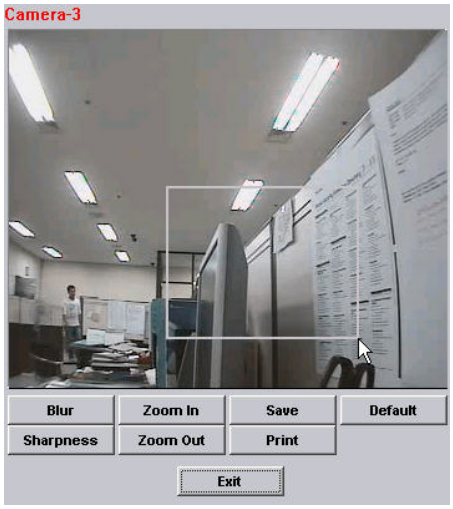


- Selecting one event from the list will show the image on preview screen.
- To add one event to book, select one and press “Add To Bookmark”.

4.8 Digital Zoom

You can zoom in the part of video image and get the still image or printed out.

1. Select area by dragging the mouse on video.



2. Press Zoom In button to get magnified image.

3. Blur or sharpen the image using Blur or Sharpness button.

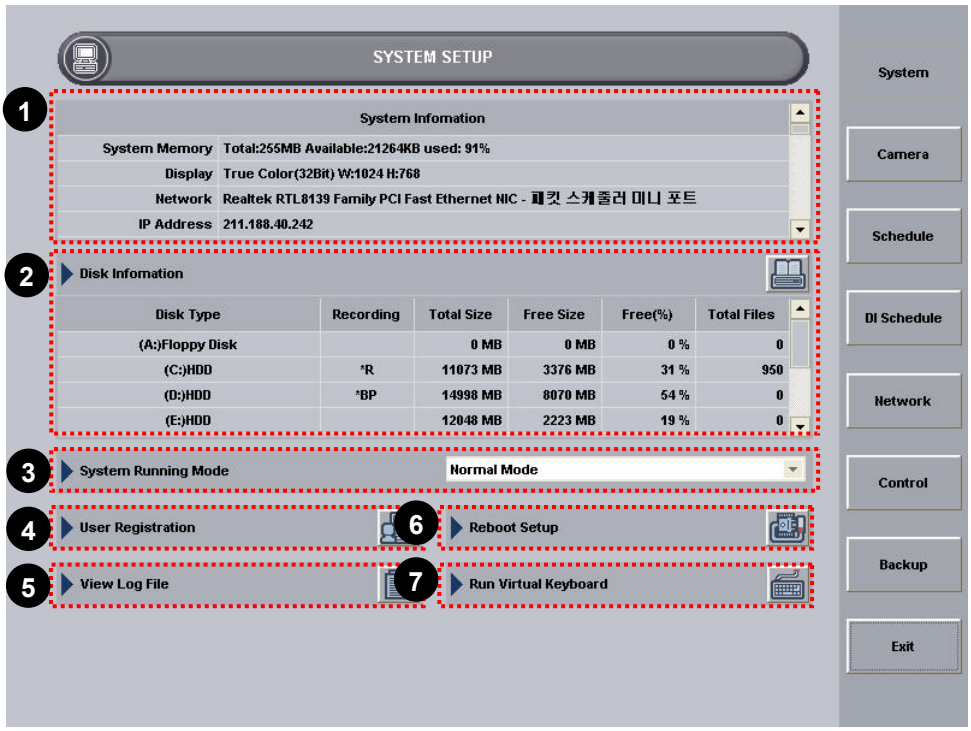
4. Save to BMP/Jpeg image or print out using Save or Print button.

Chapter 5
Setup Mode

5.1 Setup Mode

Setup mode allows you to adjust schedules and system properties and more. In order to enter setup mode, simply click SETUP botton.

5.2 System Setup

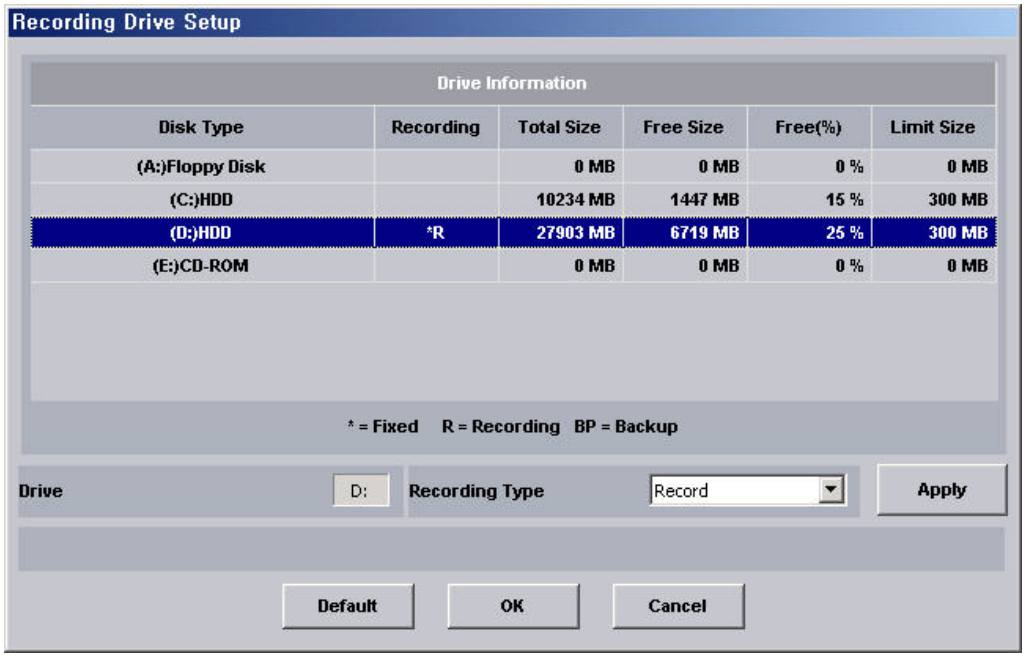


1. System Information : shows the details of your system. Use the scroll bar to view the content to the end.
2. Disk Information : shows current recording and backup drives setup.
3. System running mode : selectable between “normal mode” and “DVR mode”.
   1) Normal mode : loads desktop items before running DVSS4 program.
   2) DVR mode : hides desktop items before running DVSS4 program. Exiting program shuts down Windows automatically.
4. User registration : sets 6 user access levels.
5. View log file : displays the system log file.
6. Reboot setup : sets daily, weekly or monthly schedule of system rebooting or shut-down.
7. Run Virtual keyboard : runs virtual keyboard

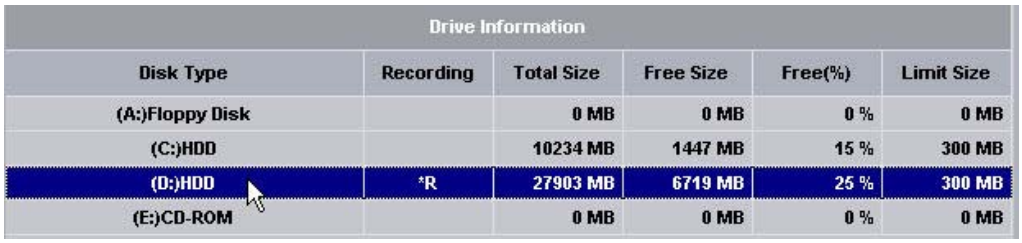
5.2.1 Recording & Backup Drive Setup

When you run DVR program first after installation, Recording Drive Setup will pop up, where you can set the recording and backup drives.

In order to add the recording & backup drives to the current setup, enter SETUP Mode. Then click DISK MODIFYING button in system setup menu.



1. Select the drive displayed in the list by clicking on it.



2. Then select the recording type among recording or backup. Click apply.

3. Repeat step 1 and 2 in order to add more recording or backup drives.

4. Click OK to finalize the disk setup.

5.2.2 User Registration

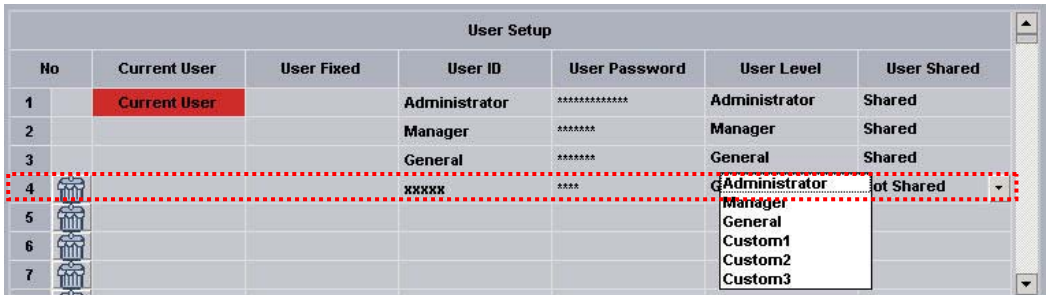
User IDs can be created in this menu in order to limit local DVR access and remote access

Simply click User Registration button in System Setup menu.

Sentry DVR program is initially set to Adminstrator ID, which can control all functions.

1. Registering New User ID

Double-click on the User ID column, and enter new ID / Password. And select one User Level among 6 levels. Additional 27 new User IDs can be registered, which makes total 30 User IDs. Clicking the trash button on the left deletes the User ID. If you like multiple remote access using one User ID, select “Shared”.

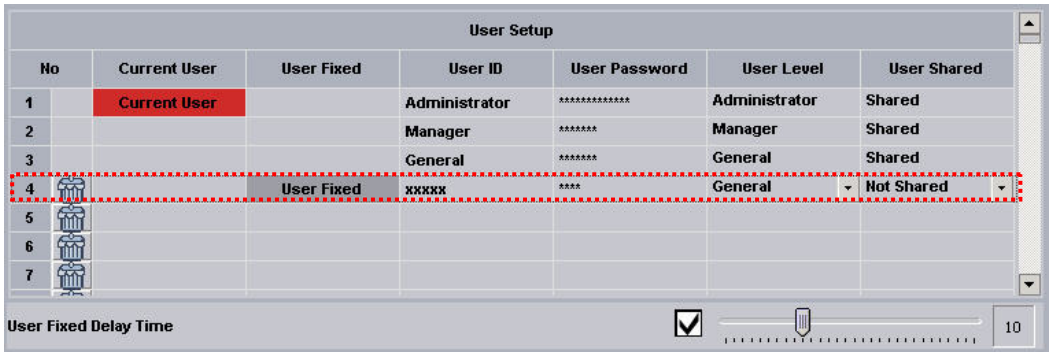


2. Setting Current User

Initially User ID is set to Administrator. If you set another User ID to “Current User” and exit Setup menu, the program will ask the user for ID / Password unless the User ID is authorized with the corresponding functions.

3. Setting User Fixed

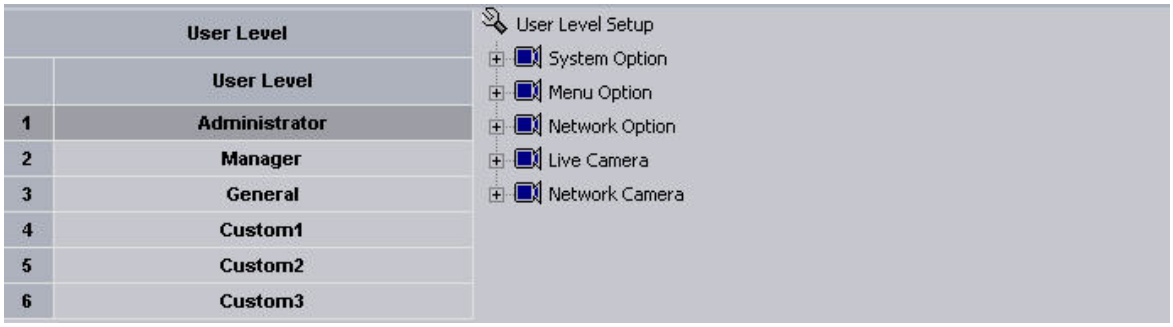
Set one User ID to “User Fixed” and exit User Registration menu. Then the program will automatically return to live mode and Current User will switch to the User ID defined as “User Fixed”, if there is no keyboard and mouse input on Setup Mode for the time set from “User Fixed Delay Time”.



4. Setting User Level

In order to set authority of indivisual User Level, click each User Level and check on the box of each fuction as below.

- System Option : includes system shut-down, playback, pan/tilt, screen rotation and lock control.
- Menu Option : includes the menus available from System Setup.
- Network Option : includes the functions available from remote access applications.
- Live Camera : limits viewing specific video channels on local live mode.
- Network Camera : limits viewing specific video channels through remote access.



 Administrator, Manager and General are not allowed to be modified except Remote Control Setup and Rebooting Setup by Adminstrator and Manager, and Live Camera and Network Camera option by Manager and General.

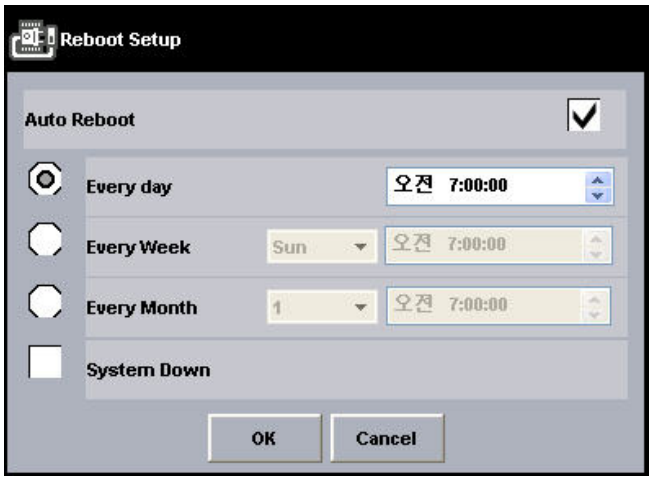
After user setup is done, click OK button in order to finalize the setting. If not, click Exit button.

5.2.3 Rebooting Setup

To set periodical system reboot or shut-down, simply click REBOOT SETUP button.

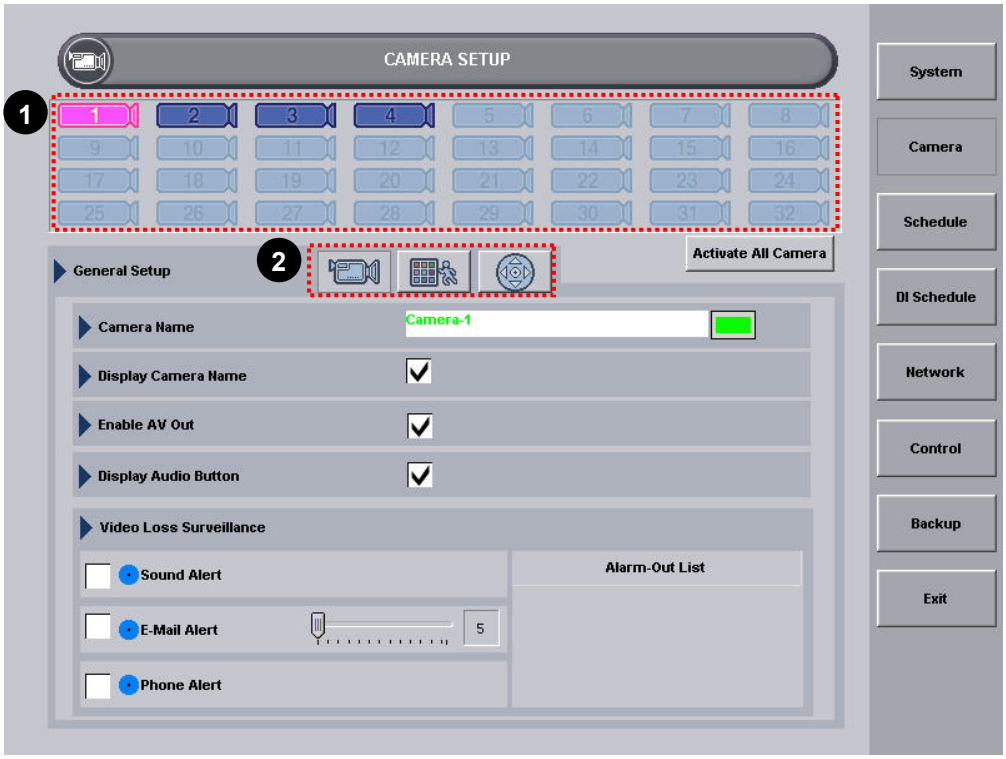
Checking on “Auto Reboot” and on one of Every day, Every week or Every month. Then set the time, day or date. Then exit to finalize the setup. The program will perform scheduled rebooting.

If “System Down” is checked on together, the system will be automatically shut off as scheduled.



5.3 Camera Setup

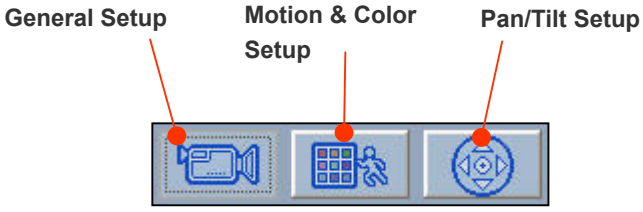
Camera Setup mode allows you to set camera functions indivisually. There are three functional parts, General, Motion & Color and Pan/Tilt.



1. You can select indivisual camera button to set its property by clicking on it. Doubleclick on camera button will repeat activation and inactivation of each channel. After program installation, only no.1 channel will activate. Therefore, all camera buttons should be doubleclicked indivisually. Or press “Activate All Camera” to activate all at one time.

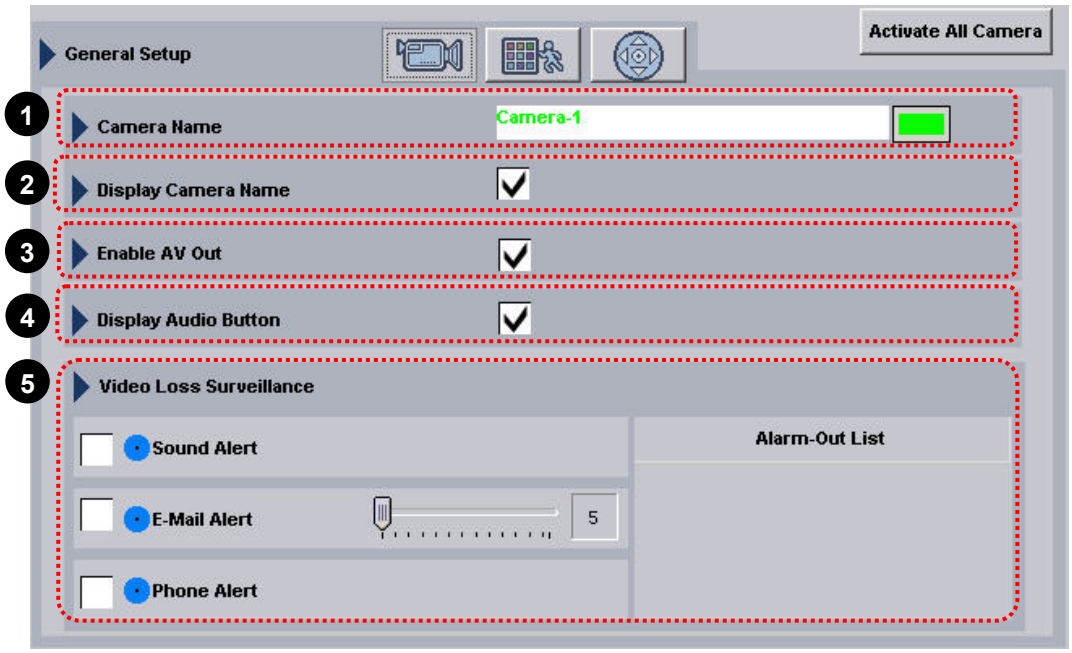
□ the channel selected , e channel activated , channel inactivated

2. Click one of three functional buttons in order to set camera properties. User “Acvatie All Camera” button to enable all channels at the same time.



5.3.1 Setting General Camera Property

In order to set general camera properties, click GENERAL SETUP button and select each camera icon on the above.



1. Camer Name : enter the camer name desired to be displayed on the image. The font color can be change by clicking color button on the right end.

2. Display Camera Name : check on the box to display the camera name.

3. Enable AV Out : check on the box to allow the camera to be view through TV monitor.

4. Display Audio Button : check on the box to display audio icon on camera view as the below picture.

5. Video Loss Surveillance : check on each option to enable sending alert when there is no video signal

- Sound Alert : makes beep sound through PC speaker
- E-mail : sends e-mail upon video loss (Refer to E-mail Setup)
- Phone Alert : calls to registered no. upon motion event (Refer to Dial-up Setup)
- Alarm-Out : sends digital outputs (alarm, lamp and so on) checked upon video loss

5.3.2 Setting Motion & Color Properties

In order to set motion & color properties, click MOTION & COLOR SETUP button and select each camera icon on the above.

1. Setting Color

Move the below slide bars in order to get color setting that you desire to have.

For model 4010, 4016 and 4216 models (overlay card applied)

- General is for recording image adjustment.

- Overay is for display image adjustment.

2. Setting Motion Properties

- Motion sensitivity : move the slide bar ranging from Low to High

- Motion area setting :

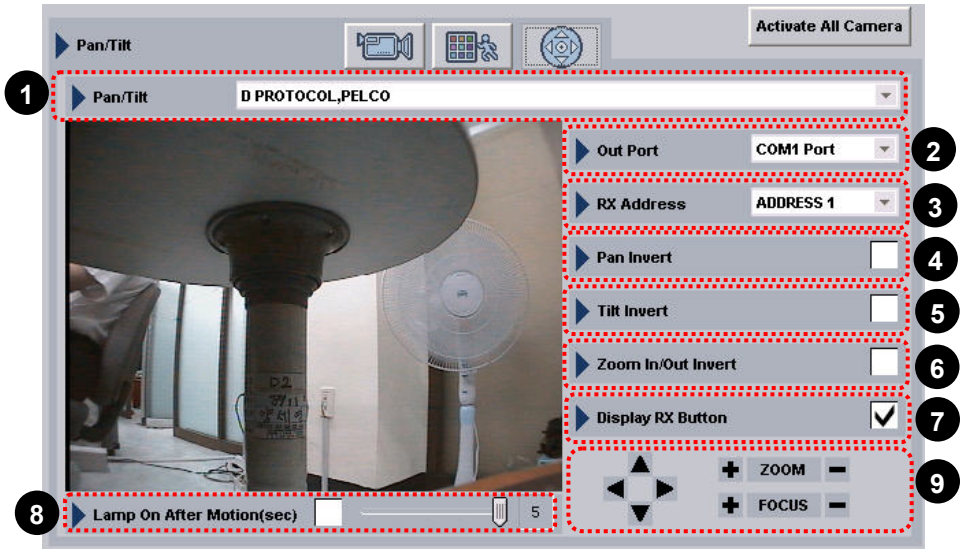
Press “Display Motion Area Button” to view motion area. Then motion setting area will be displayed in blue color. To deleted the area, draw with right-mouse click. To draw area again, draw with left-mouse click. You can use “Brush Size Adjust Button” together.

To set whole areas for motion, press “Draw On All Area Button”. To delete whole motion area, press “Delete On All Area Button”.

- Motion sensitivity test : Press Motion Sensitivity Button. Then motion area will be highlighted with blue dots. Pressing the button again will cancel the test mode.

5.3.3 Setting Pan/Tilt

In order to set pan/tilt properties, click PAN/TILT SETUP button and select each camera icon on the above.

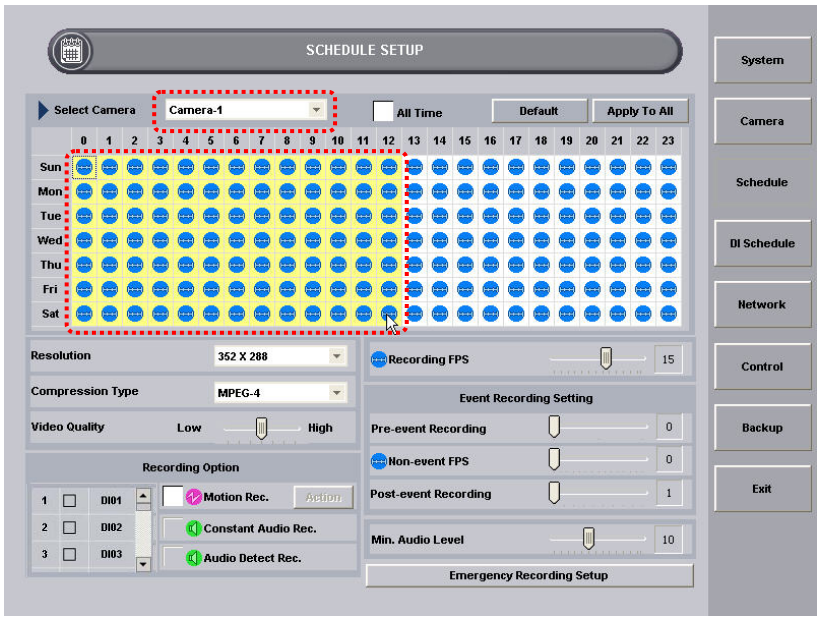


1. RX Type Selection : Select the model of RX.
2. Out Port Selection : Select the COM port which connects to converter.
3. RX Address : Select the Address No. which exactly matches with one of the RX.
4. Pan Invert : Check on the box to make pan direction inversed.
5. Tilt Invert : Check on the box to make tilt direction inversed.
6. Zoom In/Out Invert : Check on the box to make zoom in/out fuction work inversed.
7. Display RX Button : Check on the box to display the pan/tilt icon on the camera view.
8. Lamp On Time After Motion : Check on to make the lamp attached on PTZ camera turned on when motion event happens. Adjustable time is 1 to 5 seconds.
9. PTZ Movement Test : Use the buttons to test PTZ movement after setting PTZ properties in advance.

5.4 Schedule Setup

Schedule Setup mode allows you to set recording schedule for each camera.

1. Select camera no. to set schedule. And drag and drop the mouse on the specific DAY and TIME zone to set schedule. Check on “All Time” if you want draw zone on whole area.

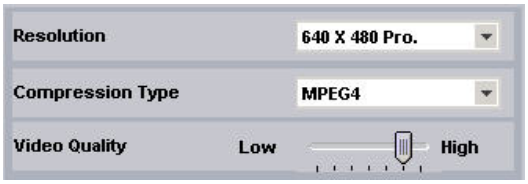


2. Set the detailed recording options.

- Set resolution ;

NTSC : 160x120, 240x180, 320x240, 640x480PRO, 640x480INT

PAL : 176x144, 256x208, 352x288, 720x576PRO, 720x576INT



- Set compression type one of “Mjpeg, Mpeg4 or Mpeg4 HQ”

 Mpeg4 HQ applies deblocking effect in Mpeg4 encoding process. So when applied, object edges in recording images appear smoother. But file sizes may be bigger than normal Mpeg4 recording images.

- Set video quality from “Low” to “High”.

3. Check on each recording option.

- DI : Triggers video recording upon checked DIs event.
- Motion Rec. : Triggers video recording upon motion event
- Constant Audio Rec. : Records audio constantly
- Audio Detect Rec. : Records audio when sound occurs

 As video and audio recording are done seperately, users will have to check on audio recording option in order to record audio together with video.

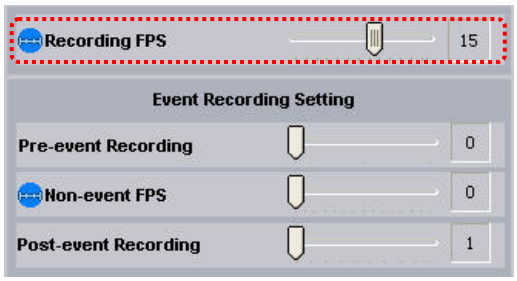
Click Action button to select alert mode when motion event occurs.

- Display Motion Areas : makes motion area blue shaded
- Sound Alert : makes beep sound through PC speaker
- E-mail : sends e-mail with captured image to registered address (Refer to E-mail Setup)

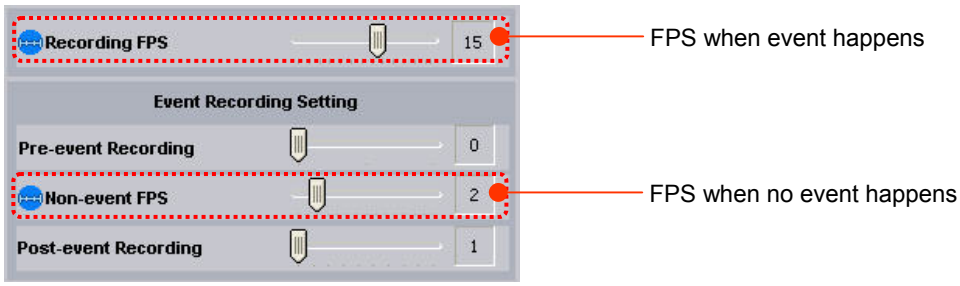
  Alert delay time setting is 5 to 30 sec
- Pop-up : displays one full screen of the camera view with motion event

  Pop-up time can be set for 5 to 30 sec
- Phone Alert : calls to registered no. upon motion event (Refer to Dial-up Setup)
- Alarm-Out : sends digital outputs (alarm, lamp and so on) checked upon motion event

4. If you don't check on Motion or DI recording option, recording mode will be continusous. Set frame rate on Recording FPS slide bar. Another slide bars is inactive.



If you check on Motion Recording or DI recording option, recording mode will be event-triggered recording. Set frame rate for event recording on Recording FPS slide bar and set non-event frames on Non-event FPS slide bar.



Pre-event Recording : Record more key frames specified (0-2 key frames) ahead the frame with event.

Post-event Recoring : Record more seconds specificed (1-10 seconds) after the frame with event.

Min. Audio Level : 0 to 25

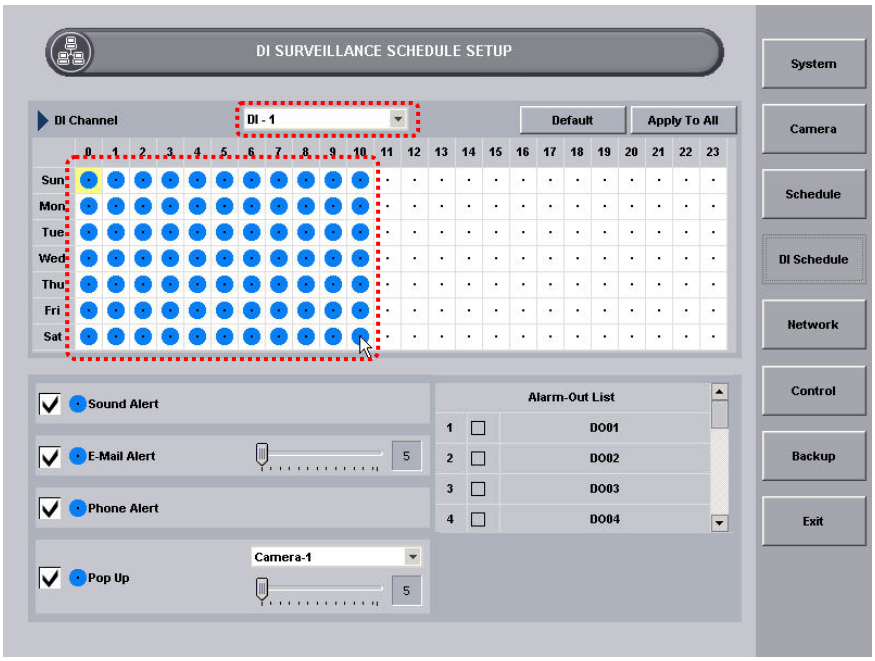
 You can repeat the step 1 to 4 in order to set schedule on multiple DAY and TIME zones.

5. Click Exit button to save and exit.

5.5 DI Surveillance

DI Surveillance Setup mode allows you to set DI surveillance schedule for each DI.

1. Select DI no. to set schedule. And drag and drop the mouse on the specific DAY and TIME zone to set schedule.



2. Check on alert option in order to send alert upon motion event.

- Sound Alert : makes beep sound through PC speaker
- E-mail : sends e-mail to registered address (Refer to E-mail Setup)

  Alert delay time setting is 5 to 30 sec
- Phone Alert : calls to registered no. upon motion event (Refer to Dial-up Setup)
- Pop-up : displays one full screen of the camera view with motion event

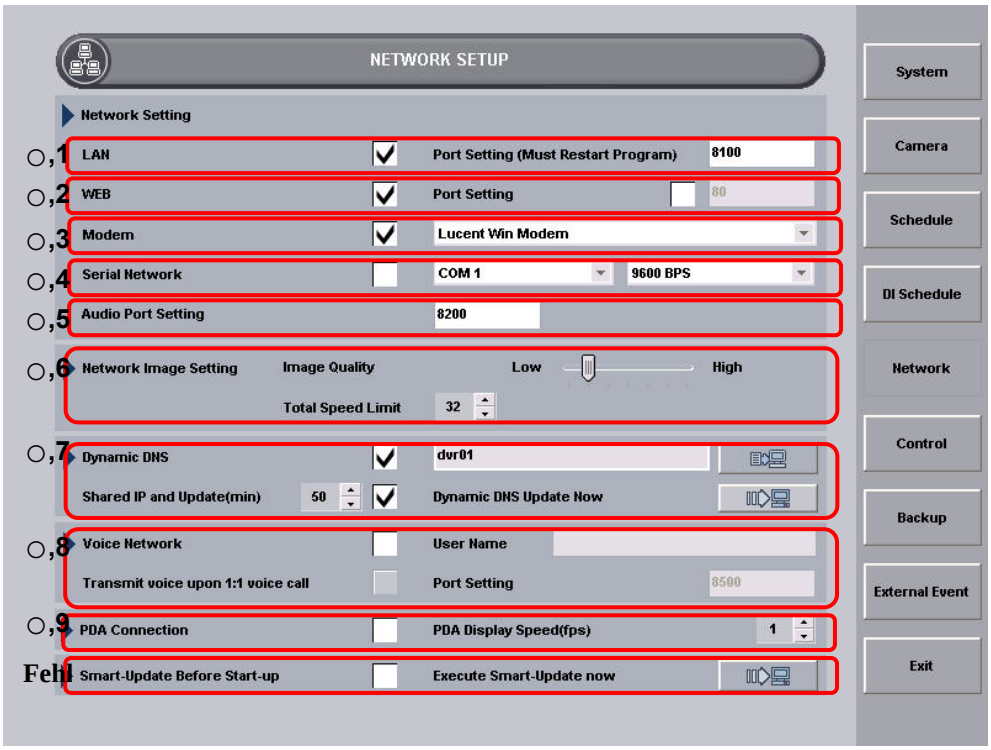
  Pop-up time can be set for 5 to 30 sec
- Alarm-Out : sends digital outputs (alarm, lamp and so on) checked upon DI event

3. Click Exit button to save and exit.

 You can repeat the above steps in order to set schedule on multiple DAY and TIME zones.

5.6 Network Setup

Network setup mode enables you to set every network-related properties.



1. Lan : check on to allow video image transmisstion through TCP/IP.

 Default video port is 8100. If you want to change, enter another port no. And restart the program.

2. Web : check on to allow remote access through web browser

 Default web port is 80. If you want to change, check on “Port Setting Option” and enter new port no.

 Please make sure that video and web port (8100 & 80) are forwarded to the DVR if there is router or firewall.

3. Modem : check on the box and choose the corrent type of modem that you use for modem-to-modem connection.

4. Serial Network : check on the box and choose COM Port No. to communicate through serial port

5. Audio Port Setting : set the port for transferring sound to remote site. Default port is 8200.

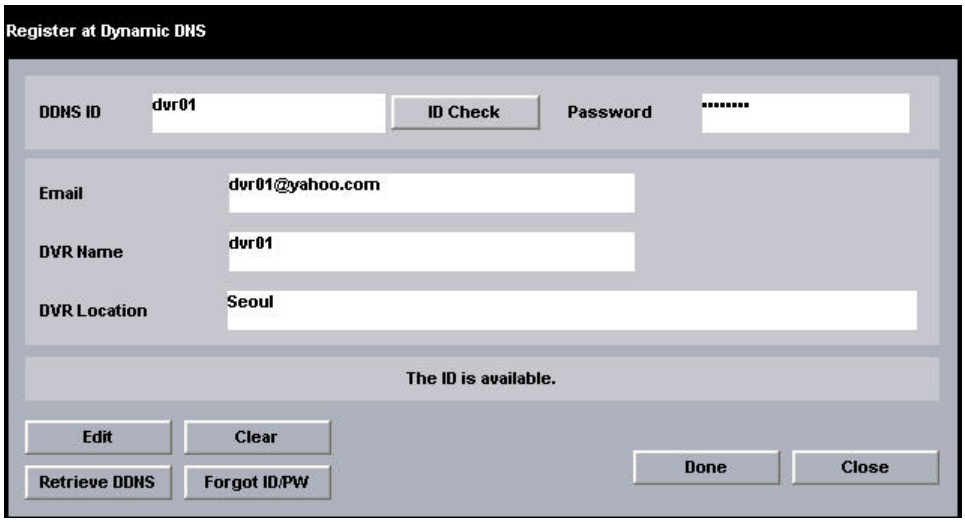
6. Network Image Quality : you can set the image quality trasferred via internet using adjustment bar. The higer the image becomes, the bigger the size gets.

 Totel Speed Limit : you can set total transfer frame rate allowance.

7. Dynamic DNS : In case of using dynamic IP or private IP, you can Dynamic DNS service.

1) Unless you have DDNS ID/PW, you can move to DDNS register menu by pressing DDNS Register Button

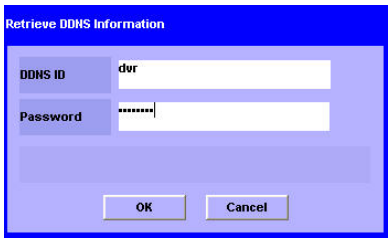
Then below DDNS Register Menu will show up as below.



2) Enter the ID that you like to register. Then press “ID Check”. If the ID is available, enter Password, Email, DVR Name and DVR Location. Then press “Done”. *For example, if “dvr” is registered as ID, only the ID “dvr” can be used instead of IP address from remote client program. And web client URL is http://godvr.net/dvr.*

- DDNS ID can be up to 20 characters. It will accept “a – z”, “0 – 9”, “-“ and “_”. And will not accept space.
- To clear the existing DDNS information from program, press “Clear”.
- When you unistall and reinsall DVR program, you need to retrieve DDNS ID/PW previously registered.

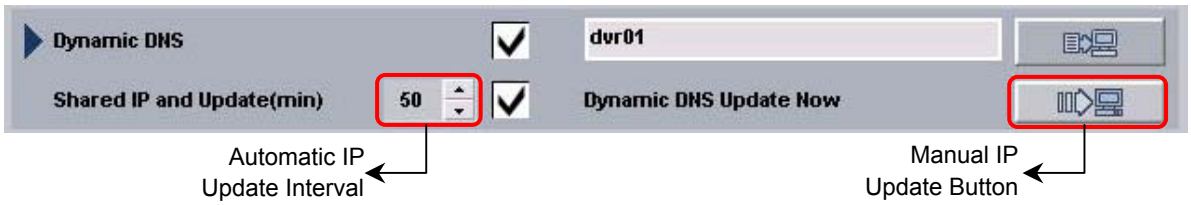
Press “Retrieve DDNS”. And enter the ID and PW you registered. Press “OK”. Then DDNS ID/PW will be restored.



- When you forget DDNS ID/PW, press “Forgot ID/PW” button. Enter the e-mail and DVR name previously registered.

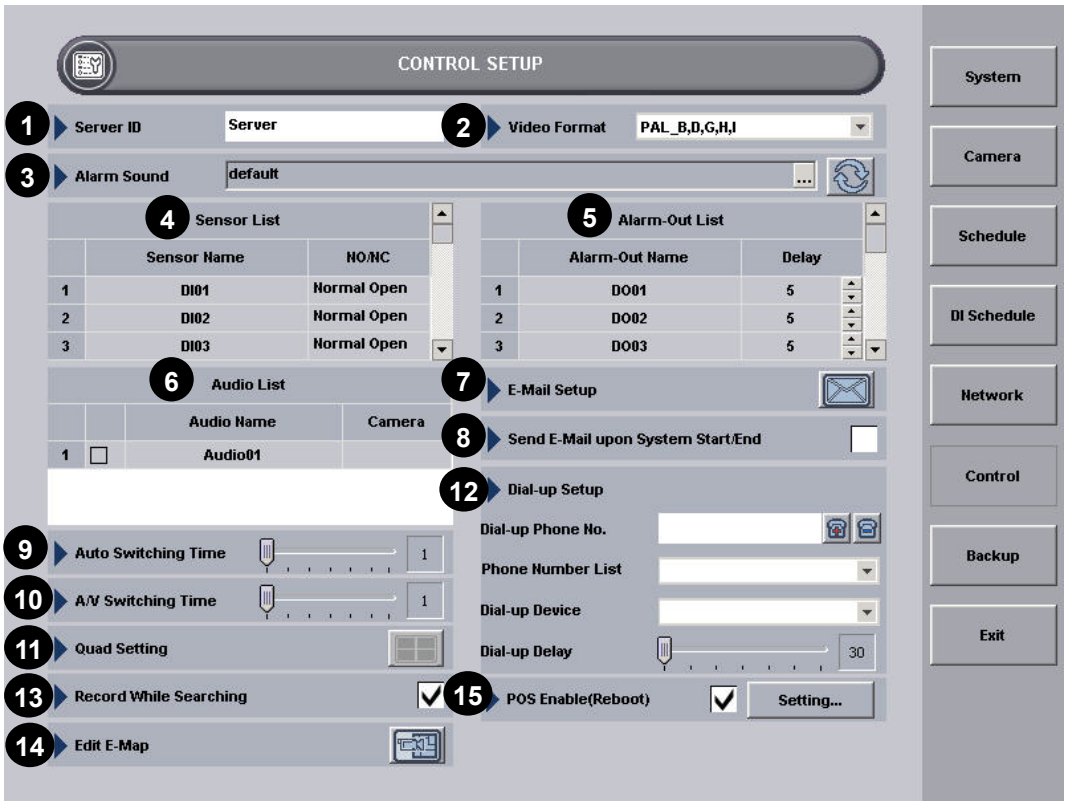
And press “OK”. Then registred DDNS ID/PW will be sent to your e-mail registered.

If the DVR is behind the router or firewall (IP is private IP), you can check on “Shared IP” option. Then public IP information in the DVR will be automatically updated every 50 minutes by default setting. When the IP changes more prequently, users can adjust automatic update time by themselves. Adjustable time is 10 to 60 minustes. For manual IP update, you can press “Dynamic DNS Update” button make sure to forward the video and web port (8100 and 80 if unchanged) to the DVR from router.



8. Voice Netwok : check on the box for two-way voice communication and enter the name desired.
   Transmit voice upon 1:1 voice call : enables allowing 1: 1 voice talk only with client’s call.
   Port Setting : set the port used for transferring voice. Default is TCP8500/UDP8500.
9. PDA Connection : check on to enable access from PDA client
10. Smart-Update Before Start-up : check on to use Smart Update function before running the program.
    Execute Smart-Upgrade Now : click the button to run instant Smart Updated right now.

5.7 Control Setup



1. Server ID : Enter Server ID that you desire to have.

2. Video Format : Select the correct video format used in your area.

3. Alarm Sound : Can select the WAV file which gives alert through PC speaker upon events. Or you can use default.

4. Sensor List : Shows sensor list. You can enter the name of sensor instead of DO##. And can select the type Open (Normal Open) or Closed (Normal Closed).

5. Alarm-out List : Shows alarm list. You can enter the name of sensor instead of DI##. And can select alarm delay time from 0 to 30 seconds.

6. Audio List : Shows audio list. You can enter the name of sensor instead of Audio##. And can camera no. to be mixed with the audio recording. You must select camera no. per each audio port in order to use audio function.

7. E-mail Setup :

1) Outgoing Mail Server : Enter SMTP mail server that the mail will be sent through

2) Authentification Method : Select authentification method

3) Account Name : Enter the account name

4) Account Password : Enter the account password

5) Encoding Method : Select the suitable one with your language

6) User Mail Address : Enter you mail address

7) E-mail : Enter e-mail addresses which get e-mail report upto 10 nos upton the below events.

Check on each event options to report to each recipient.

- M : Motion detection / V : Video Los / D : Sensor Event / S : Program start/end

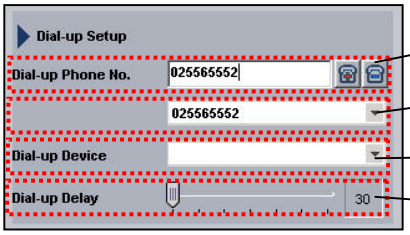
8. Send E-mail Upon System Start/End : Check on the box to send e-mail to recipients when system starts or ends

9. Auto Switching Time : Set auto switching time for PC monitor

10. AV Switching Time : Set auto switching time for analog TV monitor

11. Quad Setting : Quad TV out setting for overlay quad board used

12. Dial-up Setup



Enter the phone no. and click (+) to register
To delete, click (-) icon.

Shows the phone no. list

Shows the modem list on the DVR

Sets the ringing time

13. Record While Searching : Check on the box to record while searching

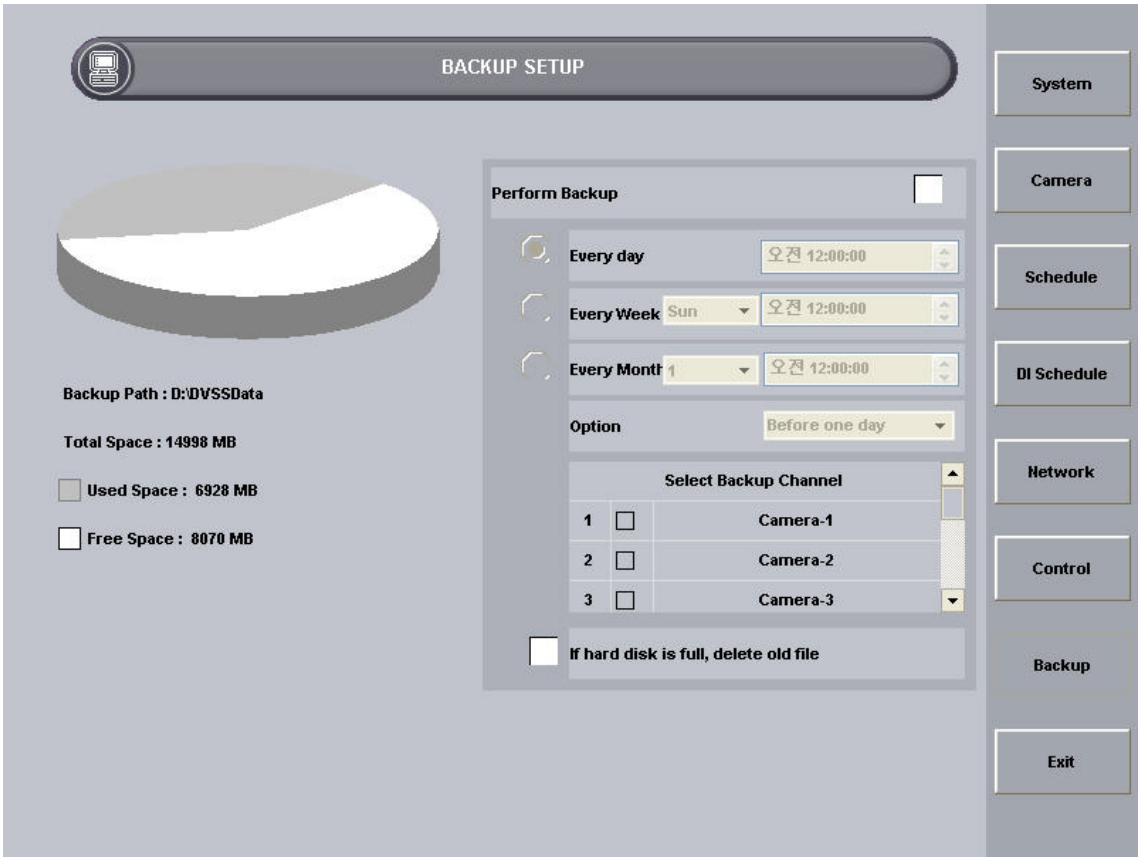
14. Edit E-map : creates e-map file. (See page 25 E-map)

15. POS Enable : check on to connect POS. And configure in the setting.

7

5.8 Backup Setup

You can set automatic backup schedule for video channels selected in this menu.



1. Check on “Perform Backup” to perform backup scheduled in order to enable scheduled backup.
2. After checking on “ Every day, Every week or Every Month” for backup cycle, set date, day or time.
3. Check on “Before one day, Before one week or Before one month” from Option. Then 24 hours data on the selected dat will be backed up by specified cycle.
4. Select the video channels that you want to backup
5. In order to erase older datas, check on “If hard disk is full, delete old file”.

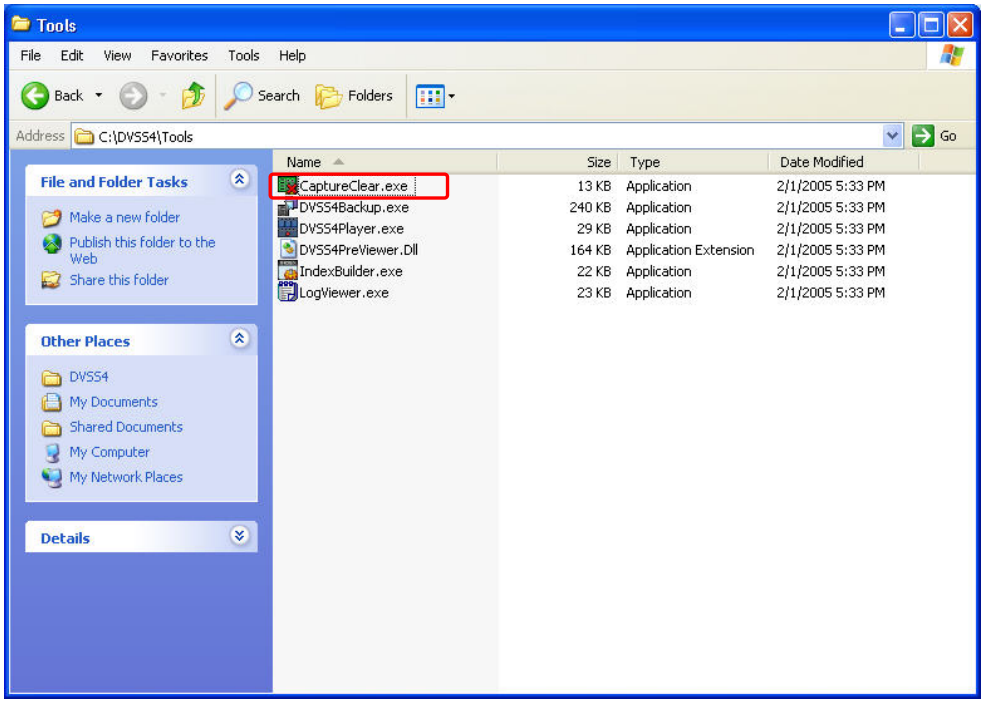
- Backup drive should be set from Recording Drive Setup first to set backup in this menu.
- Concerning manual backup procedure, refer to 6.1 Backup Tool in Chapter 6.

Chapter 6
Program Tools

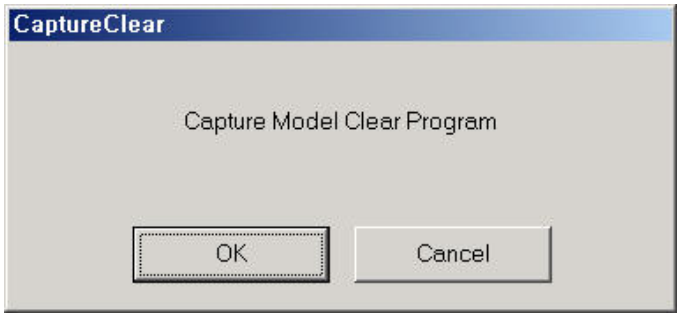
6.1 Capture Clear Tool

This tool can be utilized to reselect model type when you changed the capture board to other different model board from the system or you selected wrong type of board.

1. Close DVSS4 program. Simply run CaptureClear.exe from C:\DVSS4\Tools.



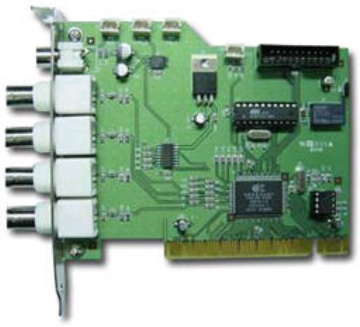
2. Press OK to cancel the current model selection.



3. Then CaptureClear Success message will show up.

4. Then you can select capture board model again from the below menu when running DVSS4 program.

	Channel	FPS	DI	DO	VER	
○	4ch	30	0	0	1.0	RCA
○	4ch	30	8	6	1.0	BNC
◉	4ch	30	8	6	2.0	BNC
○	16ch	30	8	6	2.0	
○	16ch	30	8	6	3.0	



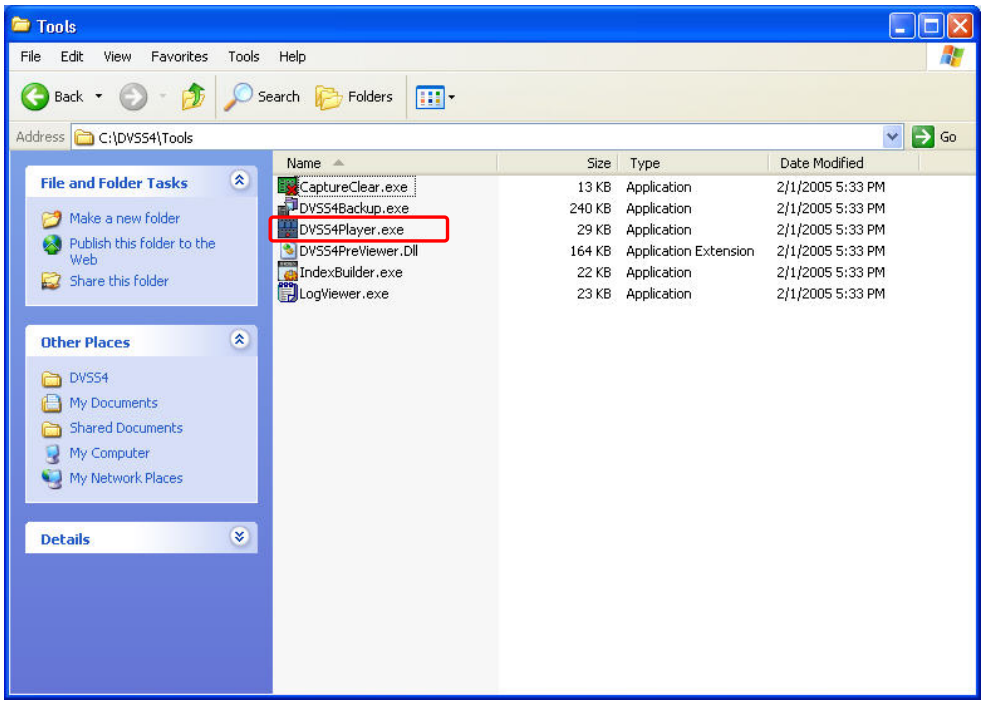
OK

The Overlay Board is available. Employed ☐

6.2 External Player Tool

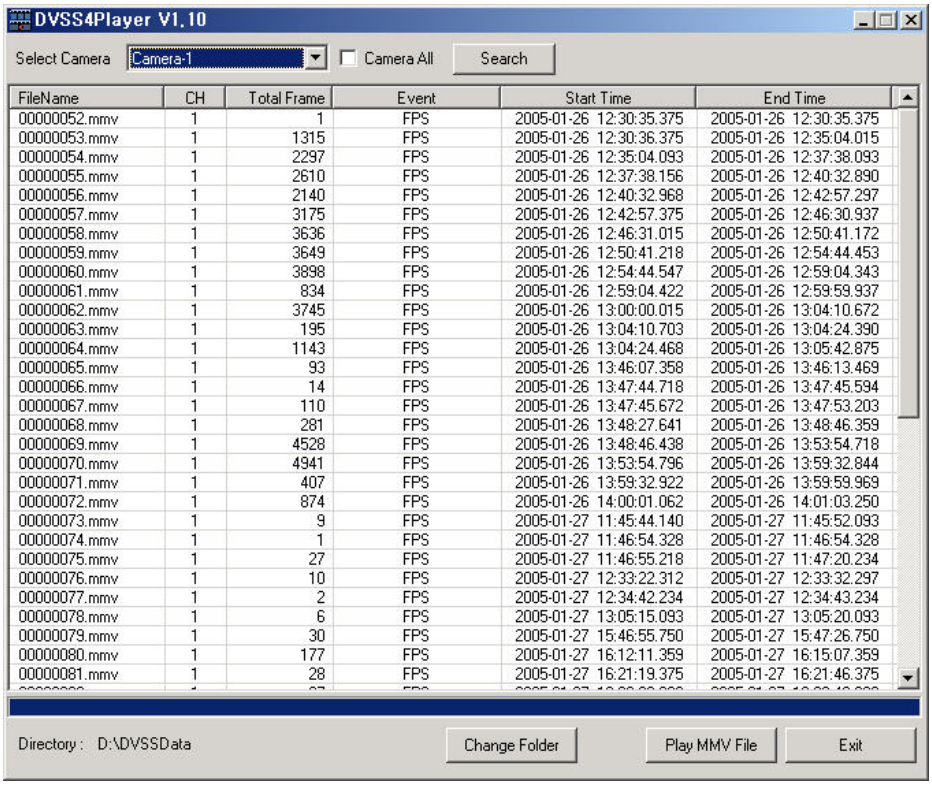
This tool can be used for viewing recording file backed up by DVSS4Backup.exe.

1. Run DVSS4Player.exe from C:\DVSS4\Tools.



2. Select the folder where backup files exist.

3. Doubleclick on the file you want to play from the list. Use Select Camer pull-down menu to search from the specified video channel.



FileName	CH	Total Frame	Event	Start Time	End Time
00000052.mmv	1	1	FPS	2005-01-26 12:30:35.375	2005-01-26 12:30:35.375
00000053.mmv	1	1315	FPS	2005-01-26 12:30:36.375	2005-01-26 12:35:04.015
00000054.mmv	1	2297	FPS	2005-01-26 12:35:04.093	2005-01-26 12:37:38.093
00000055.mmv	1	2610	FPS	2005-01-26 12:37:38.156	2005-01-26 12:40:32.890
00000056.mmv	1	2140	FPS	2005-01-26 12:40:32.968	2005-01-26 12:42:57.297
00000057.mmv	1	3175	FPS	2005-01-26 12:42:57.375	2005-01-26 12:46:30.937
00000058.mmv	1	3636	FPS	2005-01-26 12:46:31.015	2005-01-26 12:50:41.172
00000059.mmv	1	3649	FPS	2005-01-26 12:50:41.218	2005-01-26 12:54:44.453
00000060.mmv	1	3898	FPS	2005-01-26 12:54:44.547	2005-01-26 12:59:04.343
00000061.mmv	1	834	FPS	2005-01-26 12:59:04.422	2005-01-26 12:59:59.937
00000062.mmv	1	3745	FPS	2005-01-26 13:00:00.015	2005-01-26 13:04:10.672
00000063.mmv	1	195	FPS	2005-01-26 13:04:10.703	2005-01-26 13:04:24.390
00000064.mmv	1	1143	FPS	2005-01-26 13:04:24.468	2005-01-26 13:05:42.875
00000065.mmv	1	93	FPS	2005-01-26 13:46:07.358	2005-01-26 13:46:13.469
00000066.mmv	1	14	FPS	2005-01-26 13:47:44.718	2005-01-26 13:47:45.594
00000067.mmv	1	110	FPS	2005-01-26 13:47:45.672	2005-01-26 13:47:53.203
00000068.mmv	1	281	FPS	2005-01-26 13:48:27.641	2005-01-26 13:48:46.359
00000069.mmv	1	4528	FPS	2005-01-26 13:48:46.438	2005-01-26 13:53:54.718
00000070.mmv	1	4941	FPS	2005-01-26 13:53:54.796	2005-01-26 13:59:32.844
00000071.mmv	1	407	FPS	2005-01-26 13:59:32.922	2005-01-26 13:59:59.969
00000072.mmv	1	874	FPS	2005-01-26 14:00:01.062	2005-01-26 14:01:03.250
00000073.mmv	1	9	FPS	2005-01-27 11:45:44.140	2005-01-27 11:45:52.093
00000074.mmv	1	1	FPS	2005-01-27 11:46:54.328	2005-01-27 11:46:54.328
00000075.mmv	1	27	FPS	2005-01-27 11:46:55.218	2005-01-27 11:47:20.234
00000076.mmv	1	10	FPS	2005-01-27 12:33:22.312	2005-01-27 12:33:32.297
00000077.mmv	1	2	FPS	2005-01-27 12:34:42.234	2005-01-27 12:34:43.234
00000078.mmv	1	6	FPS	2005-01-27 13:05:15.093	2005-01-27 13:05:20.093
00000079.mmv	1	30	FPS	2005-01-27 15:46:55.750	2005-01-27 15:47:26.750
00000080.mmv	1	177	FPS	2005-01-27 16:12:11.359	2005-01-27 16:15:07.359
00000081.mmv	1	28	FPS	2005-01-27 16:21:19.375	2005-01-27 16:21:46.375

4. Then DVSS4Player will run instantly.

Speed play from +16X to -6X

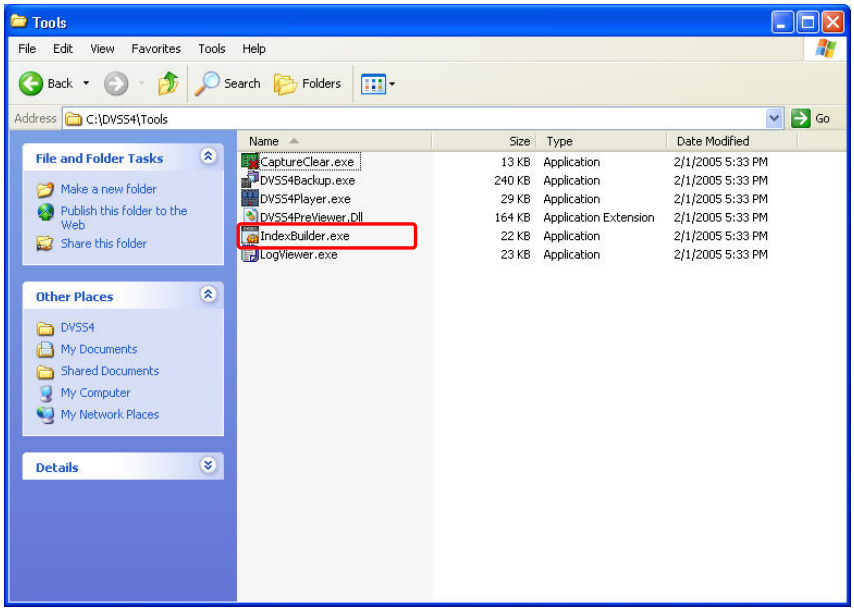
Export to BMP or Jpeg snapshot image

Separate External Player Install version is availabe to play from other PC without DVR program.

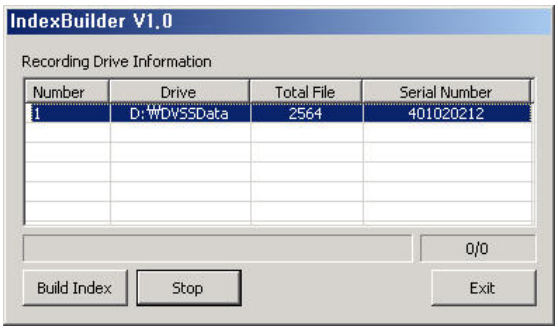
6.3 Index Builder Tool

This tool can be used when you cannot see the current recoring time/date history from search menu footage by index file curruption.

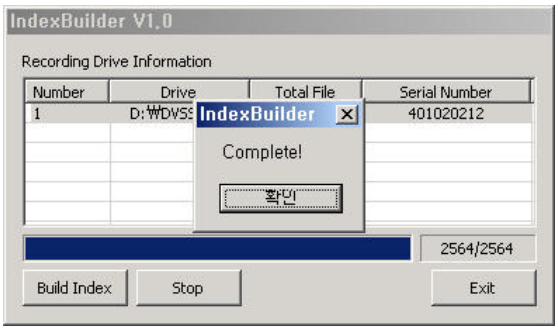
1. Close DVSS4 program. Run IndexBuilder.exe from C:\DVSS4\Tools.



2. Select on Recording Drive and press Build Index Button.



3. After the rebuilding process, complete message will show up. The more recoding files exist, the longer the rebuilding time takes.

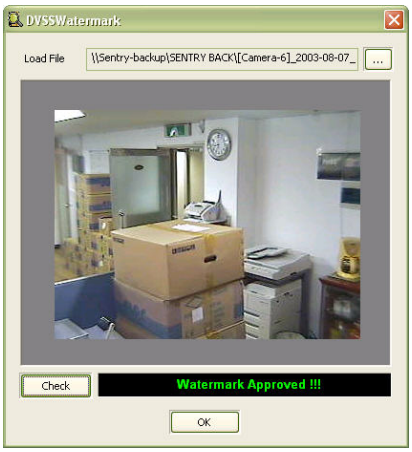


6.4 Watermark Verification Tool

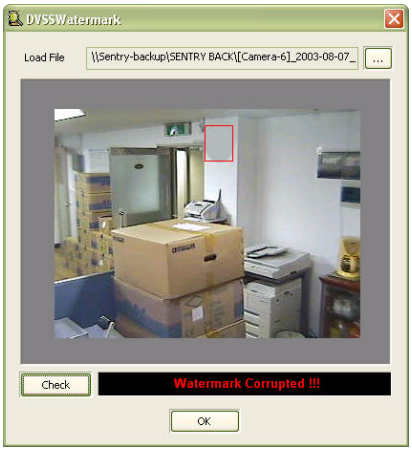
This tool can be used when you need to verify if the watermark-applied image file is genuine.

1. Run “DVSSWaterMark.exe” from C:\DVSS4\Tools.
2. Load the digital watermark-applied BMP file.
3. Press “Check” to verify.

When the image is verified to be genuine, “Watermark Approved” message will appear.



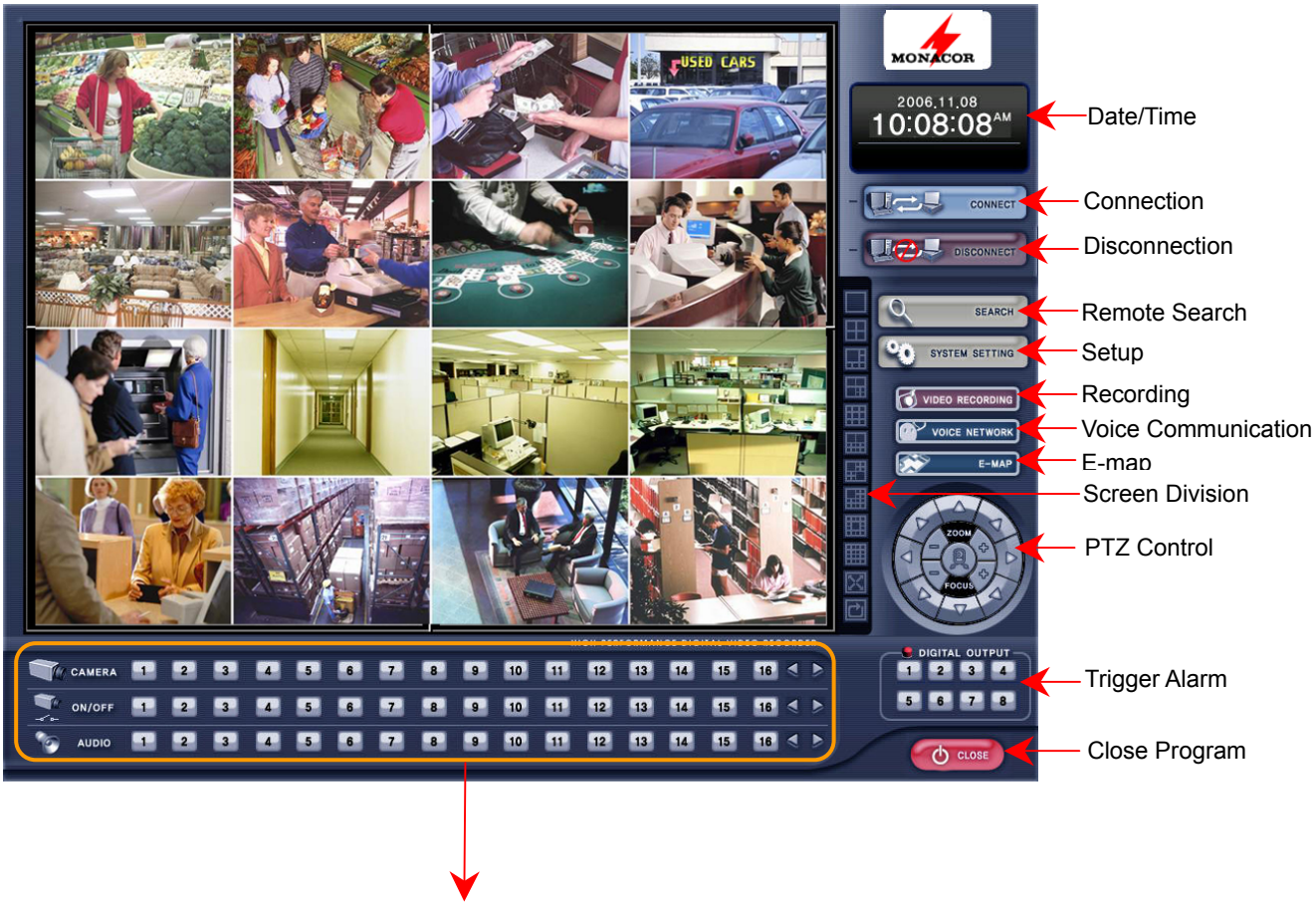
When the image is verifed to be forged, “Watermark Corrupted” message will appear with forged area highlighted.



Chapter 7
Network Function

7.1 Remote Client Program

You can view the images from remote site using Remote Client Program. First install Remote Client Program using setup file in the cd-rom provided. After the installation, run DVSS4Client.exe or DVSS4 Client shortcut created on the desktop. Then the below display mode will come out.



- **Video Channel Selection ;** Select remote video channels to view on the selected screen division.

- **Video Channel ON/OFF ;** Select remote video channels to receive image. ON is yellow lamp.

- **Audio Channel Selection ;** Select remote audio channels to listen. Selected audio channel is diaplayed by red lamp. Only one audio channel can be selected.

7.2 Connecting From Remote Client Program

In order to server, just click CONNECTION BUTTON. Then the below dialog box will come out.

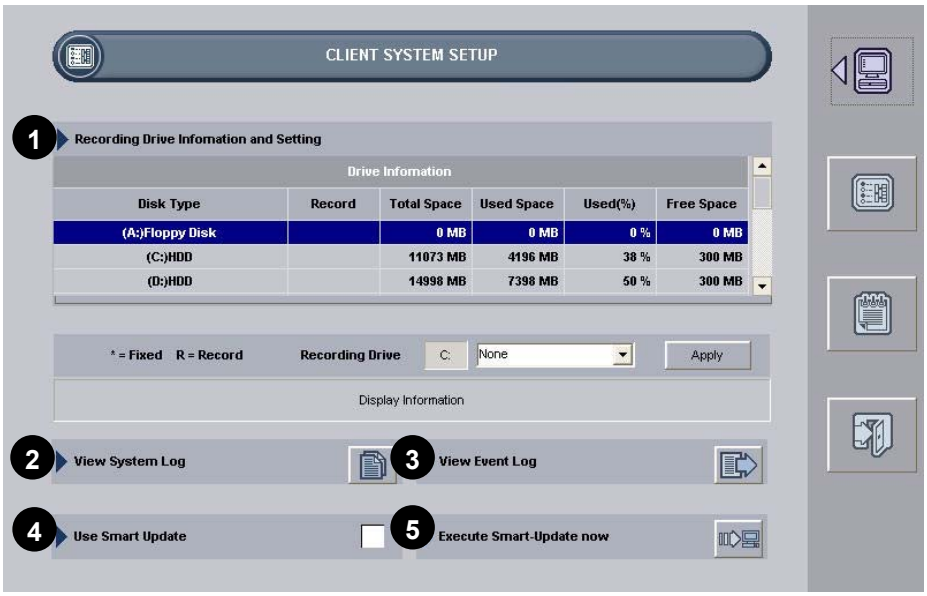
1. Select Server Name from the list.
2. Enter ID and Password, which should be registered on User Registeration Setup from server side.
3. Click connection button in order to connect.
4. Click cancel button to cancel.

 LAN check box from Network Setup on server side should be checked on to allow remote access.

 Please make sure that video port 8100 (if not changed from server side) is forwared to the DVR if it's behind router or firewall. And make sure to check on "Share IP" option so that server program can get correct global IP information.

 In order to view images through remote client, Direct X 8.1 or above should be installed on client PC.

7.3 Client System Setup

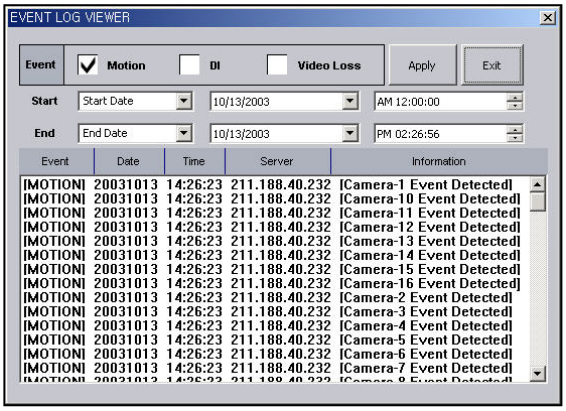


1. Recording Drive Information and Setting

   You can set the drive where real time images transferred from server are recorded.

2. View System Log : Displays the system log file.

3. View Event Log : Shows the below event history created from server side instantly

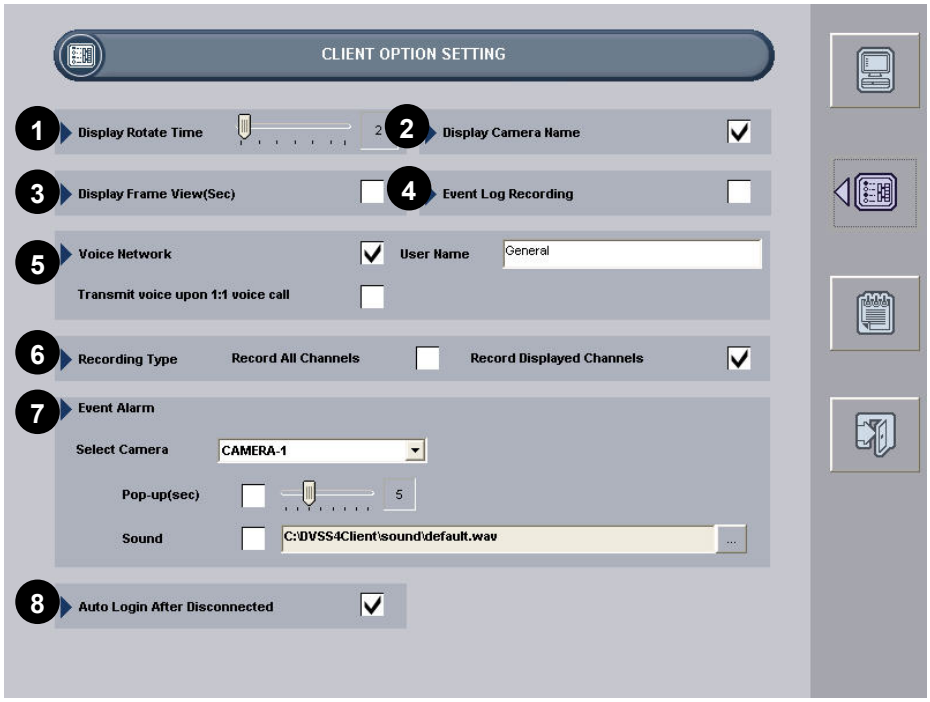


[Event Log Viewer]

4. Use Smar Update : Check on to run Smart Update upon start-up of DVSS4 Client

5. Execute Smart Update Now : Click the button to run Smart Update now

7.4 Client Option Setting

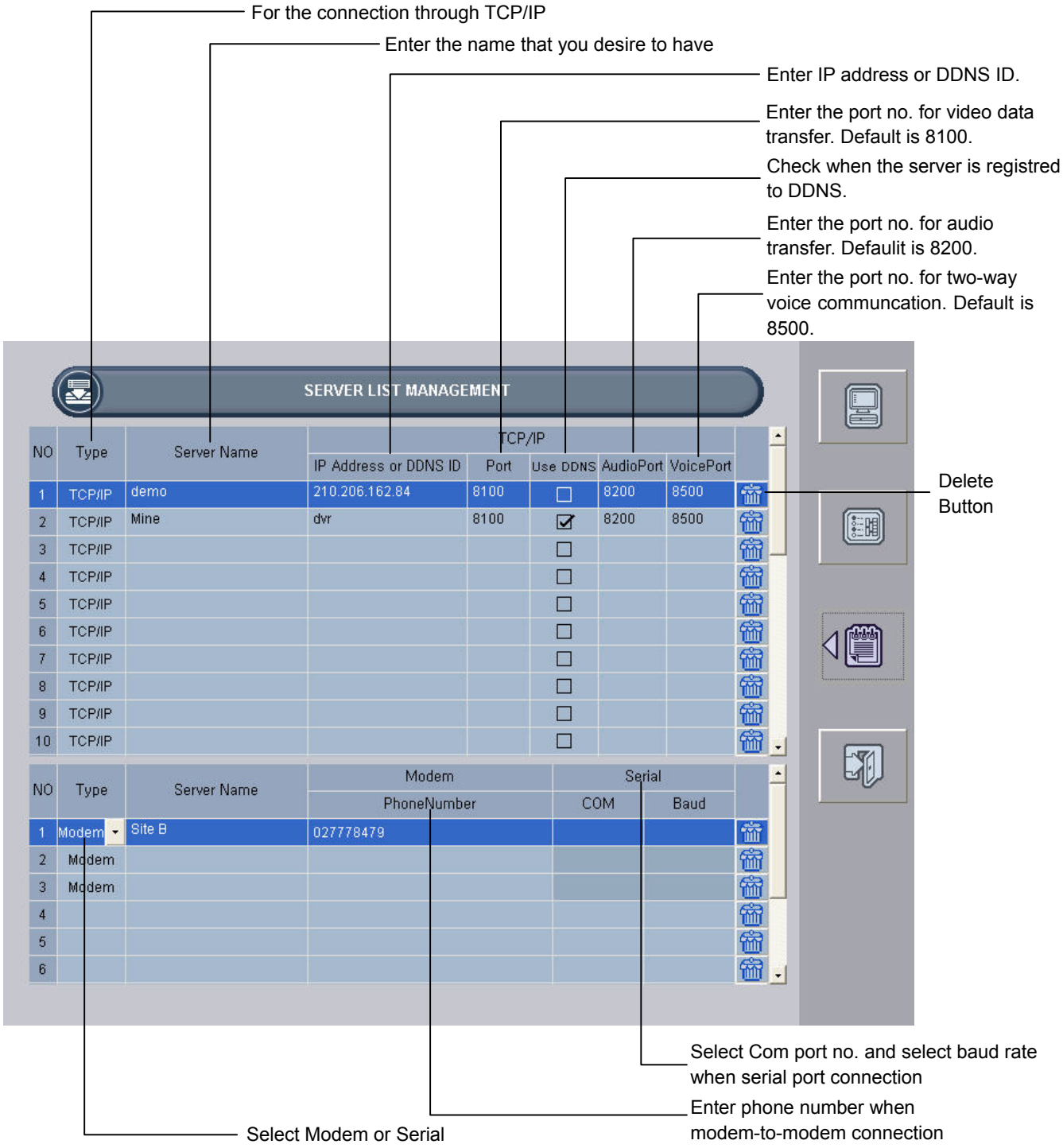


1. Dislay Rotation Time : Set the time interval between each screen when auto switching mode (1 – 30 seconds)
2. Display Camera Name : Shows the camera name on the camera view
3. Display Frame View : Shows the frame rate on the camera view
4. Event Log Recording : Records the event history created from server side on the log file
   (The event histories are recorded in C:\DVSS4Client\LogFile named like Event2003XXXX.log)
5. Check on Voice Network to enable Voice Communication with server and enter the name desired
6. Recording Type : Check on one of two options
7. Event Alarm : Makes the selected one channel to pop up in full screen for given time or makes beep alarm, when motion event happens from selected remote channel.
   - Select Camera : select one channel to pop up when triggered by motion
   - Pop-up (Sec) : select the time to maintain pop-up (3~10 seconds)
   - Sound : send beep alarm through PC speaker on the remote client.

 To enable motion event pop-up or beep alarm, motion recording mode should be set from remote DVR.

8. Auto Login After Disconnected : Connects again to remote DVR automatically after disconnection.

7.5 Registering Server List



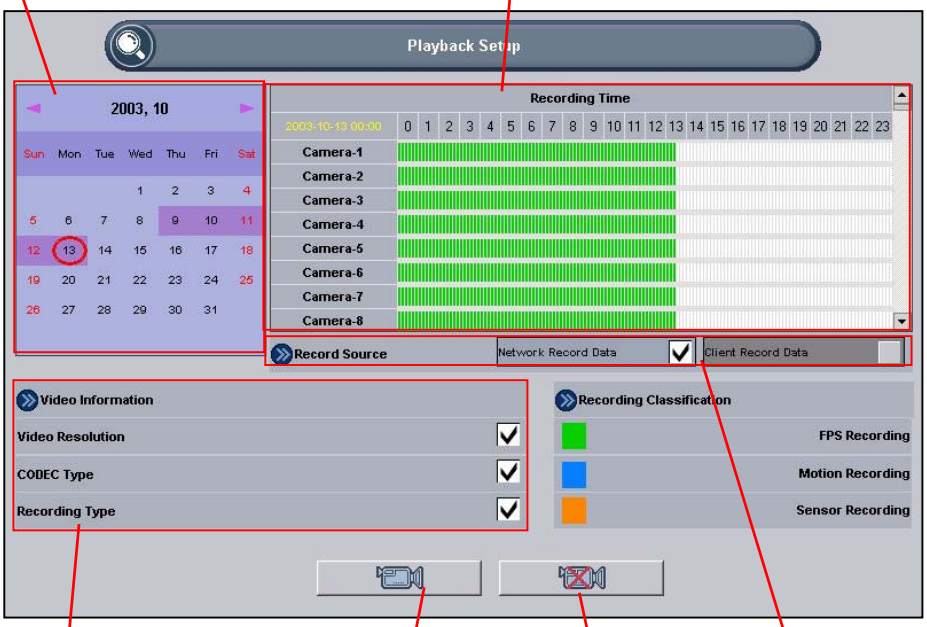
- Refer to 5.6 Netwrok Setup about the procedure of registering Dynamic DNS ID.
- You check video, audio and voice port no. from server side Network Setup if changed from the default.

7.6 Viewing Remote Recordings

In order to view remote recordings, just click SEARCH BUTTON. Then the below dialog box will come out. Select date & time. Then click OK to continue remote playback.

1. Date Selection Menu
The date having recording is displayed colored. Click the date that you want to search from.

2. Search Time
The time having recording is displayed colored (FPS:Green, Motion:Blue, Alarm-In:Orange). Move the red bar to the time that you want to play.



3. Video Information
Check on each to displayed resoultion, codec type or recording type on recording images.

5. OK
Click to play selected images.

6. Cancel

4. Record Source
Select one of Network Record Data Or Client Record Data

Upon pressing OK button, the search interface will run.

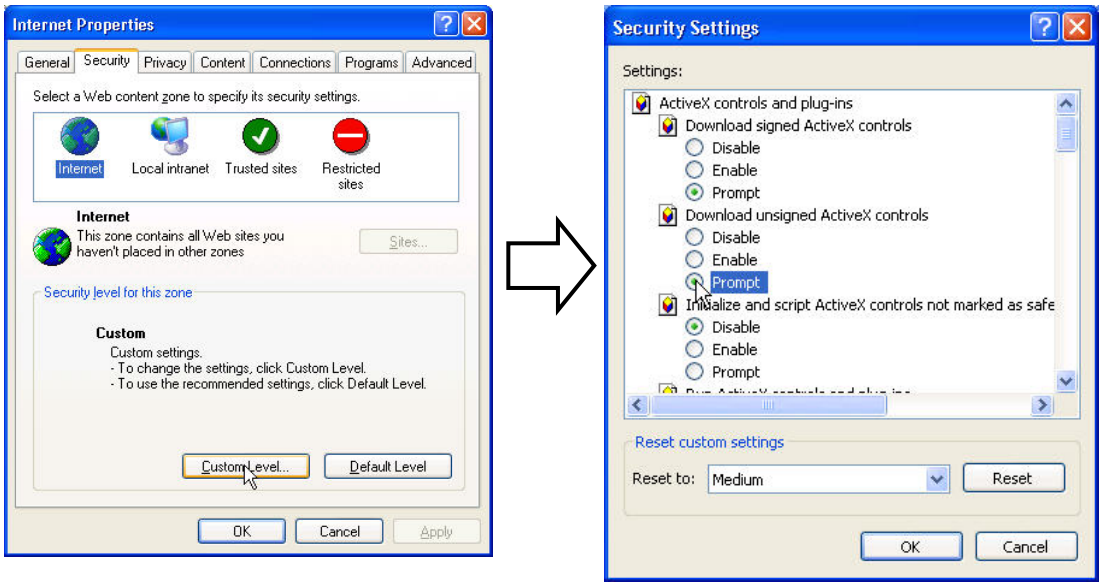
7.7 Viewing Through Web Browser

Type IP address of the remote DVR or http://godvr.net/DDNS ID from web brower. Press “Enter”.

Ex) If IP address is 211.211.204.205, URL is http://211.211.204.205. If DDNS ID is dvr, URL is http://godvr.net/dvr.

Enter ID/PW from the dialog box. Press Connect button. Then web client page will show up.

- LAN and WEB check box from Network Setup on server side should be checked on to allow web client access.
- Please make sure that video port 8100 and web port 80 (if not changed from server side) are forwared to the DVR if it’s behind router or firewall. And make sure to check on “Share IP” option so that server program can get correct global IP information.
- In order to view images through web brower, Direct X 8.1 or above should be installed on client PC.

When ActiveX download is blocked from Win XP SP2, please follow the below steps.

1. Open Internet Properties. And press "Custem Level" from "Security" tab.
2. Check on "Prompt" under "Download unsigned ActiveX controls". Press OK. And press OK from Internet Properties.
3. Then prompt window will be shown to ask if users wants to download ActiveX controls for running web client.